

# RMR

RESEARCH MANAGEMENT REVIEW

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*The Journal of the National Council  
of University Research Administrators*





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of University Research Administrators*

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Concerned with the broad range of issues affecting the administration of research, *Research Management Review* provides a forum for the dissemination of knowledge about the study and practice of the profession of research administration. *Research Management Review* (ISSN 1068-4867) is published periodically by the National Council of University Research Administrators at 1225 19<sup>th</sup> Street, NW, Ste. 850, Washington, DC 20036. Copies are available only electronically from the NCURA Web site at: [www.ncura.edu](http://www.ncura.edu)

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## EDITOR'S PREFACE

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It is with great joy and humility that I assume the role of Editor of the *Research Management Review*. Following in the footsteps of one of my long-time mentors, Bob Killoren, is an awe-inspiring experience. Having a paper published in *RMR* was a milestone in my own career, and working with Bill Sharp, who was then editor, was a completely positive experience. During my tenure, my goal is to make authors' submission of manuscripts just as positive an experience.

The Editorial Review Board has stayed almost completely intact. I am deeply grateful to those who have so selflessly given of their time and talent over the years in serving the research administration community by painstakingly reviewing articles and offering comments for strengthening articles before they go to press. I am also thankful to those who have accepted the invitation to join the *RMR* Editorial Review Board in order to lighten the burden somewhat by dividing the tasks among more pairs of hands. The Editorial Review Board stands ready to spot-check the experienced author and to shepherd the new author through the peer review process—helping a good manuscript evolve into a published paper.

As a new editor, of course I bring my own ideas into the mix of what *RMR* should be. In a word, it should be USEFUL. I want to see *RMR* be the source you go to in order to explain a task or concept, learn how someone dealt with an issue, see the results of research related to research administration, or review leadership theory as it exists in our environment. Also, as our profession is being legitimized by the birth of master's degree programs in research administration, I want to see *RMR* serve as a forum for the publication of thesis projects. In that way, we can all glean knowledge from the hard work and scholarship of these bright young thought leaders.

In this issue, we open with an article from **Jo Ann Smith** and **Laurianne Torres** on the process of developing the master of research administration program at the University of Central Florida (UCF). UCF was the recipient of the NCURA grant for developing a master of research administration program. This is an interesting read for those considering the development of such a program at their institution. It should also be useful for comparison purposes to anyone interested in enrolling in this or other MRA programs.

Many who have engaged in any sort of research or commentary on research administrators as an occupational group have referred to the past *RMR* article by **Dr. Thomas J. Robert**, “**Profile of a Research Administrator**” (2006). That landmark article, which used regional 2005 data, has been updated to use national 2010 data. Demographic factors include the predictable: gender, salary, educational level, CRA status, age, and ethnic group, as well as personal demographics such as children at home, responsibility for house-keeping duties, volunteerism, and much more. Those doing research with this occupational group and those with just a sense of curiosity will find this an interesting article to explore.

We all know much has changed in the research administration landscape over the past decade. **Linnea Minnema**, an MRA candidate from Emmanuel College, shares a review of the impact of historically significant events on research administration from 9/11 to the recession. This thought-provoking history of research administration over the past decade presents a fine historical perspective that documents the roller-coaster ride we have experienced since the aftermath of 9/11 and the increase in the defense budget, and with ARRA and the recession.

**Drs. Tim Atkinson** and **Tom Pilgreen** present an article on transformational leadership theory as applied in the context of the research environment.

Transformational leadership theory blends the different leadership styles in which we must engage while working in an environment where we must play multiple roles. I recommend this article to all research administrators who have a desire to improve their own leadership style in order to adjust to the schizophrenic environment of research administration.

I have attended **Dr. Robert Porter’s** “More Paper out the Door” presentations at national and regional conferences again and again. I learn from each one and always come away with fresh ideas of how to encourage investigators to write more and better applications. At my request, Dr. Porter has committed this highly popular presentation to the written word. I predict this article will offer some new insights and friendly reminders to those who have been in research administration for a while. I further predict it will become required reading for newly hired research administrators and development officers throughout the globe.

**William Ferreria, J.D.**, offers a thorough treatise on collaborations between industry and academic institutions. This work clarifies some of the confusion and misconceptions concerning relationships between industry and academic institutions. As relationships between academia and industry become more frequent and more highly regulated, a good understanding of the nuances of these relationships is critical.

This issue ends with two media reviews. First, “**The Lab: A Positive Solution to Research Misconduct**”, is reviewed by **Miriam Campo**. This interactive film is a fun and dynamic way to offer responsible conduct of research training on your campus. It is a free resource provided by the Office of Research Integrity and well worth exploring further. Second, *Techniques for Monitoring Federal Subawards* by Thompson Publishing is reviewed by **Claudia Haywood, J.D.** This review provides insight into this resource—one that you may want to consider for your office library.

I hope you will enjoy reading these articles as much as I have. Moreover, I hope

you will find them useful as you facilitate the research enterprise and do your part in improving the quality of life of this and future generations. Please share your comments about these articles as a Letter to the Editor at [jennifer.shambrook@stjude.org](mailto:jennifer.shambrook@stjude.org). RMR would love to hear from you.

**Jennifer Shambrook, Ph.D.**  
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August 2011

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## LETTERS TO THE EDITOR

The following letters to the editor were received on two articles in the last issue of RMR. I invite you to visit the RMR archives to read or re-read these and other articles.

### LET’S KEEP TALKING!

**Bob Porter’s paper, “Can We Talk? Contacting Grant Program Officers” (RMR 17: 10–16 [2009])**, highlights the need for pre-proposal, pre-award mentoring for authors of grant applications. So much of research administration is dedicated to the ever-changing post-award compliance issues that central administration does not see the forest for the trees. If grant awards are not made to an institution, there is no need for a post-award infrastructure. Bob and a now-growing cadre of proposal development supporters continue to stretch the traditional boundaries of pre-award

services to principal investigators or project directors.

No longer should the pre-award enterprise of an institution be: “We checked your budget for errors: Did you fill out all the forms correctly? Is this topic an institutional priority? We will get the institutional signatures for you.” Instead, the services might include: “Does your project match the funding agencies solicitation? What is the general perception of reviewers for this type of project for those funds? Have past reviewer panels been receptive to the application of specific new techniques to this discipline? Does the

application present a clear, concise explanation of the proposed project?"

Answers to these types of questions from program directors can shed light on how the reviewers might perceive a research project.

Often a program director, upon seeing an abstract of a potential project, will say, "My program doesn't fund that type of project, but I think that another program is a better fit." This is often followed by a referral to and contact information for that program.

The "Tip of the Iceberg" points were on the mark. Program officers can often predict how the presentation and components of projects have been received by grant reviewers. There are no guarantees of funding.

However, working with a program officer can be a win-win situation. The program officer wants to have as many high-quality proposals that address program priorities as possible. In this way, when budget allocations are made within the agency, the program officer can justify a request for an increase in future budget allocations by demonstrating that a high number of excellent applications were received but that only a percentage of these could be funded based on the current budget allocation. Every program officer would have like to have had a few more funded applications. Also, many program officers now have the authority to select a few applications from the "cusp" (the

bottom edge of funding) that address the agency's priorities rather than award by numerical value alone. Therefore, an eager young investigator who has submitted an agency-focused, well-written application with an "on the cusp" score can have that proposal moved into the funded award category.

Additionally, program directors can provide valuable insight into the unfunded application. Sometimes, investigators or project directors begin on an appropriate route in the beginning of the application but lead themselves astray during the process. A friendly, not accusatory, conversation with a program director can lead that application to funding on the second try. This can be a much easier way to obtain funding rather than by starting all over again.

As sponsored program personnel, we can offer to new investigators a portal into the mysteries of working with an agency, talking to a program director, and/or interpreting a review sheet. The rewards for faculty and the sponsored program personnel are unlimited! Let's keep talking!

**Nancy B. Bell, Ph.D.**  
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## **Missing Elements in University Technology Transfer Offices Hindering Successful Commercialization of Their Technologies**

The results of a 2007 survey reported by **Abrams et al. [RMR 17: 18–50 [2009]]** of Technology Transfer Office (TTO) directors at U.S. universities, research institutions, and academic medical centers provide valuable data and statistical information about institutional processes, procedures, management, and financial return policies. The data reveal key objectives of institutional business philosophies and an alternative theme that intellectual property (IP) programs are not primarily driven by institutional financial incentives. The different institutions adhere to their unique motivational factors in promoting IP, as the study evidences. The main impetus for promoting IP in a smaller university is to advance knowledge and develop products for the benefit of the common good in society. Although no conclusive evidence surfaced from the study results, the survey suggests the existence of even further differences between public and private universities. A notable difference is that TTOs at public universities provide more faculty services while private universities emphasize intellectual property commercialization. Data reveal that 10% of the institutions are motivated chiefly by

financial return, 11.5% are driven by revenue maximization, and 2.5% adhere to their mission statements to maximize revenues. Understandably, mission and focus are the key factors; the data clearly suggest that many factors, including management style, philosophy, and accountability at each institution, need to be objectively reviewed to determine whether the TTOs run efficiently and effectively in managing IP commercialization.

The authors suggest that the requirements implications in the Bayh-Dole Act of 1980 may have been thrust onto academic institutions as an unfunded mandate. For evidence of such, the survey data indicate only 0.6% (0.01 to 8.0%) of the total available research budget is expended on patent protection and intellectual property commercialization. Research organizational business efforts have previously demonstrated that greater financial investment in IP commercialization was predicated on receiving a higher return on the investment and the greater probability for successfully commercializing the IP. Smaller universities may not be able to afford to invest their excess research revenue, if any, into technology transfer and commercialization. The data could further suggest that public universities may have the financial security of taxpayer funding and therefore not wish to invest in patents and intellectual property commercialization; they do not wish to be viewed as a business that may

suggest an inherent conflict with academic mission. A difference exists for the private universities, however, in that they perhaps account for and justify all of their research investments. Admittedly, these suggestions are speculative. Determining the exact reasons for these differences will require further research.

Despite underlying intentions of the Bayh-Dole Act, post-implementation data indicate that most TTOs function as cost centers at their respective institutions, not as revenue centers. Furthermore, research institution personnel are primarily compensated for their IP management functions and not for any revenue generated in IP management and commercialization. For instance, the data indicate that only 20% of TTOs are required to self-fund at least 50% of their expenses from revenues. In addition, fewer than 20% of TTOs have incentive plans that compensate for deal value.

On the contrary, the economic return, as defined by the AUTM Survey, indicates that roughly 18 institutions received \$3.4 billion in licensing revenues (AUTM, 2008). Further, the data on licensing revenues reveal that most product listings were pharmaceutical products, which generated a high sales volume and value. It is notable that in 2002, total U.S. licensing value is estimated to be in excess of \$500 billion (Invention Statistics), which far exceeded the national research and development-estimated expenditure of \$292 billion

(Shackelford, 2002). While the larger institutions show positive economic return from licensing revenues that appears to counter-balance the overall TTO expenditure, these data on IP commercialization, at least for smaller institutions, should be encouraging. While this survey captures the most essential elements of the TTO financial efficiencies, issues such as TTO structure, intellectual capital, and focus were not specifically addressed; doing so would have generated a clearer snapshot of the current situation in the TTOs.

Existing data show that 8% of all intellectual properties and patents are submitted or owned by academic institutions and 80% by private firms (OECD, 2011)—this vast disparity may have resulted from the focus and motivational factors between these entities. Furthermore, the current study indicated the existence of extant differences in philosophy, management, and motivations for IP commercialization among universities, academic centers, research institutions, and industry. Universities, academic medical centers, and research institutes are poised to advance fundamental knowledge and develop technology. It is not their main mission to focus on or independently develop and market IP products. Commercialization of the IP for these institutions requires obtaining a licensing partner and most often requires collaborative efforts with an industrial

partner(s). Our collective experience highlights primarily two factors, which determine the success of technology commercialization not addressed by this study.

**(1) The technology development stage and institutional internal funding to support the attractiveness of the technology is a key issue.** The technology development stage is extremely important in attracting a promising licensing partner. Second, the fit between a prospective company and licensing partner is highly important to commercial success. For industry, it is common for a company to examine the technology developed at universities and academic research centers and then later conclude that the IP may be at a premature stage for further development. They sometimes conclude that the IP needs further advancement before it is worth licensing, or extensive discussion. For the technology to be licensed, further development may be needed at the universities or research institutions. Funding mechanisms are often insufficient to advance IP technology to the proof-of-concept or prototype stage. The prototype stage is preferable so that a potential licensing partner could best evaluate a product's market potential and estimate the costs necessary to finalize the product. Without this stage, most IPs and inventions result in non-commercial patentability. Data clearly show that little funding exists to assist in technology

enhancement, or to pay TTO officer incentives, especially at smaller public universities, which may be prohibited from doing so, acting as a further disincentive to technology commercialization.

**(2) Having a marketing plan and clear marketing methodology in place is another key factor to successfully commercializing IP technology.** A successful marketing plan will take into consideration items such as availability of sufficient number of staff and expertise, availability of marketing materials, easily navigable and up-and-running website, availability of a technology list, personal contact information of the TTO officers at the institutions, and successful interactions between the willing licensing partner and the TTOs. All of these factors are important in generating interest in and successfully obtaining a licensing partner.

Establishing business arrangements and relationships at the onset of any commercialization plan may also be a key to finding the best licensing partner. It is important to learn whether the potential licensing partner's own patents intersect with the technology that are being developed or negotiated. Most institutional research is done for the sole purpose of scientific discovery, while private industry conducts research to generate the marketability of their product(s). If the technology interfere with the product(s) in the pipeline for an industry, it is most likely that a company would partner with the

researcher to develop the technology or to buy the rights and not to pursue it – shelve it to stifle commercialization and competition.

This survey adequately reviews how TTOs are currently managed and function. The survey addressed some specific areas of institutional management and organizational structure. The authors allude to the importance of making a financial investment in IP commercialization to enhance product development and technology improvement for universities and research institutions. The data show that U.S. institutions spend 55% of TTO operating budget or 0.6% of their total research budget on TTO. The authors also rightfully propose that smaller institutions that do not make an adequate investment in the commercialization of their IPs will not be very successful.

It is discouraging but not surprising to learn that TTOs spend more money on patent protection than on operations (ratio range, 6.4:1 to 3.5:1), which includes commercialization costs. It would have been most beneficial to glean from this specifically how much money, if any, universities, academic medical centers, and research institutions spend on technology transfer and commercialization, which are vital to the success of their intellectual property and patents.

Data show that 90% of efforts go to commercialization of a patent to ensure its success (Invention Statistics, 2011). It is clear

that universities and research institutions are not committing this level of financial or intellectual effort in this area. The data extrapolation from the current survey reveals that one FTE is employed for approximately \$27 million (for smaller institutions) and for approximately \$20 million (for larger institutions) in research expenditures. It is not certain whether the data support the implication that larger institutions are more efficient and smaller institutions are required to have minimum infrastructure in place before having the capability to produce commercially viable IPs. If the former is correct, it is possible that larger institutions have better intellectual capital to their advantage of and better royalty terms addressed in their contract language, as these may vary from 1% to 20%. If the latter is also true, the authors' comment concerning the Bayh-Dole Act having been an unfunded mandate further justifies the notion as evidenced by the fact that more investment brings in more revenue to the institutions from technology transfer programs. Of course, only larger institutions had proven to have the means to invest adequately and to be more successful with commercializing IP. The larger universities' IP successes are in direct correlation with placing higher investments on the development of IP and the capital it generates as excess revenue. In addition, they often operate with larger TTOs and staff capacity to support the research. It is debatable whether research universities

would follow this business model; however, it has been reported that more research investment would be necessary to the successful commercialization of IPs (DeVol et al., 2006).

It appears that the authors of this study have measured “success” strictly in terms of the amount of revenue generated as net revenue by a research institution on IP technology development. However, other non-financial factors were not measured, some of which may be influential factors in the success of IP, including publications, grants, and other associated but difficult to measure benefits inventors and the institutions bring to the table. On many instances, the research itself has been the primary goal and the intellectual property associated with the research resulted as a by-product of the research process, or even as a secondary outcome. It is not surprising that successful inventors are also successful researchers who often bring numerous grant awards to the institutions at which they are employed—grants that also contribute to the financial viability of their institutions. Moreover, evidence shows that “knowledge spillover” contributes to local and regional innovation (Fritsch & Franke, 2004).

We concur with the authors that universities, academic medical centers, and research institutes, especially the smaller institutions, lack the necessary operating budgets to commercialize IP technology. We find that unlike private industries, these

institutions’ missions do not focus on technology commercialization and are thus limited by not having the expertise necessary to license and successfully commercialize their inventions and technologies. Should the universities, academic medical centers, and independent research institutes follow the business model to optimize technology commercialization and to generate revenues in excess of their operating budgets, they must focus on this area and invest appropriately to reach this goal.

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# The Process of Establishing a New Master of Research Administration Program

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## ABSTRACT

In 2009, the second largest university in the nation was awarded a grant from NCURA to initiate a new fully-online graduate program in research administration. The Master of Research Administration (MRA) was approved by the institution's Board of Trustees in March 2011 and the first classes will begin August 2011. Currently the research literature does not offer studies on establishing and developing research administration graduate programs. The purpose of this paper is to describe the planning process followed to establish the graduate program at the University of Central Florida, provide a brief overview of the program, and identify the lessons learned during these initial stages of the process.

**The University of Central Florida (UCF)**, founded in 1963, is the second-largest university in the nation. Located in Orlando, Florida, UCF and its 12 colleges provide opportunities to 56,235 students, offering 183 bachelor's and master's degrees and 29 doctoral programs. Students come from all 50 states and 140 countries.

The Carnegie Foundation for the Advancement of Teaching classified UCF as a university with "very high research activity" (RU/VH), which is the highest designation for doctorate-granting universities.

## **NEED FOR ADVANCED PROFESSIONAL PROGRAMS IN RESEARCH ADMINISTRATION**

Research administrators help facilitate the development and implementation of research activities within universities, non-profit and for-profit research organizations, and hospitals. Knowledgeable and skilled research administrators are critical to diminishing the administrative burden placed on researchers so they can do what they were prepared to do—conduct research. Moreover, research administrators help promote a culture of responsible conduct of research, maintain compliance, and contribute to maintaining the public trust in research. Graduate professional programs in research administration are needed to prepare highly skilled research administrators who will help the nation meet its growing demand for research innovation and economic growth.

**“Graduate professional programs in research administration are needed to prepare highly skilled research administrators who will help the nation meet its growing demand for research innovation and economic growth.”**

Only recently have any empirical studies been conducted exploring research administration theoretical models or frameworks (Atkinson, Gilleland, & Barrett,

2007). Research administration has continued to evolve in congruence with the progress of science. As the regulatory environment began to expand, it became necessary for research institutions to establish policies and procedures to support the management and administration of sponsored research programs (Beasley, 2006). These trends have included major expansion in regulations in such areas as the protection of human subjects in research, the ownership of intellectual property, the care of animals used in research, research data management, and reporting conflicts of interest. More recently, demands for research and innovation in such areas as energy, healthcare, and technology have increased in an effort to alleviate global problems (Cockburn & Stern, 2010). In sync with the demand for more research development and innovations has been the requirement for increased accountability and transparency of government agencies by the public, resulting in an influx of agency regulations and policies directed toward accounting for and reporting of research activities. With such an ever-changing and complex regulatory environment it is practically impossible for researchers alone to keep up with all the new requirements and compliance issues (Rockwell, 2009; Stanley & McCartney, 2009). The purpose of the Master of Research Administration (MRA) degree is to prepare individuals for employment as mid-level administrators at public and private research universities and

medical centers and related positions at federal agencies.

The need for continued professional development from a growing number of research administrators is demonstrated by the National Council of University Research Administrators (NCURA)' rapid membership growth; from 1983 to 2008 its membership grew 403% (Roberts, Sanders, & Sharp, 2008). One of NCURA's primary missions is to provide members with education and professional development to help research administrators remain current with the constant changes in the field and to help acclimate those entering the profession. This escalation in NCURA membership affirms that continued education and development is of great importance to research administrators. Subsequently, the need for a graduate program in research administration was clearly described in the *NCURA Request for Proposals* (2009) calling for institutions of higher education to submit implementation proposals to establish fully online graduate programs for research administrators. In this announcement the necessity for a master's degree was indicated through a 2009 survey of NCURA members. Eight-hundred and eighty five (885) respondents stated an interest in an online graduate degree in research administration. NCURA also gathered anecdotal information from federal government employees with similar interest in such a graduate program (NCURA, 2009). In the same way, UCF distributed a survey in fall 2010 using a research administrator listserv that received

189 responses. Of the 189 surveyed, a total of 74% indicated an interest in taking such a program. The respondents were primarily university research administrators; 80% agreed that a MRA program would be important and fill an educational need for those in research administration.

The projection of employment growth for research administrators is difficult to measure. Although the U.S. Department of Labor does not gather employment data for research administrators specifically, it does gather data on those working in research and development who are heavily supported by research administrators. The U.S. Department of Labor reported that wage and salary employment in scientific research and development services was projected to increase by 25% between 2008 and 2018, compared with 11% employment growth for the economy as a whole. Demand for new research and development is expected to continue to grow across all major fields, with growth being particularly strong in biotechnology and other life sciences research as increased demand for medical and pharmaceutical advances are driven by an aging population. This demand will lead to increased research and development spending in these areas and will likely increase the need for research administrators to support the expansion of these national efforts (Bureau of Labor Statistics, n.d.).

No formal survey has been conducted of potential employers' need for highly-skilled research administrators (universities, government agencies, hospitals, and other

non-profits), although there is direct and indirect evidence suggesting significant employer need for formally trained research administrators. According to Roberts (2005), it is likely that employers would desire having quality educational and professional development programs available for those new to the profession "since the vast majority of research administrators enter the profession with little or no experience in the field" (p. 100). Institutions wish to avoid penalties for noncompliance and to uphold the reputation of their faculty researchers and their institutions. Penalties for research misconduct can be severe. Potentially, research institutions could be debarred from receiving federal grants and individual researchers could be restricted from applying for any federal research funding. Depending on the authorizing legislation, penalties for noncompliance related to export controls can range between \$65,000 and \$250,000 for civil violations and criminal penalties for individuals can be up to \$1,000,000 and 20 years of imprisonment. Preventing and avoiding such serious penalties for noncompliance is an incentive for an employer to desire quality education programs designed specifically for research administrators and for hiring highly-qualified research administrators.

### **PLANNING PROCESS**

The initiative to investigate creating a graduate program in research administration began with the release of NCURA's call for implementation proposals to encourage institutions of

higher education to create fully online graduate programs.

*Initial Discussions and NCURA Proposal.* During 2009, the dean of the College of Health & Public Affairs and the dean of the Regional Campuses along with the Public Administration Department chair met with Office of Research and Commercialization representatives and interested faculty members at Central Florida University to discuss collaboration in the development of a graduate program in research administration. The Department of Public Administration aligned well with research administration and had offered classes in grants and contracts for the past 12 years for the degree programs in nonprofit management and public administration at both the undergraduate and graduate levels. The department chair was experienced in establishing new programs and was ready to work on establishing a MRA within the department. In addition, Regional Campuses and Continuing Education had been successful in creating and offering fully online professional degrees nationally and agreed to help create a new program that would model their other graduate programs. In addition, Regional Campuses agreed to provide financial support to hire a full-time program coordinator in the event of an implementation grant award from NCURA. The Office of Research and Commercialization offered its expertise to help develop the NCURA proposal in collaboration with other university partners. The proposal to NCURA was

submitted and awarded in the fall semester of 2009.

**Prepare White Paper.** Upon the NCURA award, the next step, according to university procedures, was to submit a white paper to the Graduate Council Program Review Committee. The white paper for the research administration proposal was written by the department chair to request an opportunity to submit a formal MRA Implementation Plan proposal. The purpose of submitting a white paper is to describe and define: the overall program; student demand and head count projections; possible careers for students; student outcomes; new faculty, equipment, or space required for the new program; any similar programs at other institutions in the state to avoid duplication; and the proposed start date. The white paper was first reviewed by the dean of the college and then forwarded to the vice provost and dean of the Graduate College, who made the white paper available to all deans. Each dean conducted internal college discussions to identify concerns with the proposal, such as overlaps, duplications, or possible areas of cooperation. In spring 2010, the vice provost and dean of the Graduate College evaluated the white paper and granted approval for the Department of Public Administration to move forward with an MRA Implementation Proposal.

**Hire Coordinator and Prepare Implementation Proposal.** During summer 2010, a position was advertised and a full-time program coordinator was hired. The program coordinator recruited an advisory

board and began developing and writing the implementation plan with the chair and with input from the advisory board and faculty members. During this time the coordinator used this input and knowledge and experience in instructional design and research administration to gather resources and develop the framework for the curriculum core of the program.

**Develop Course Syllabi.** In conjunction with writing the Implementation Proposal, all new MRA course syllabi had to be created and submitted to the College Curriculum Committee for review and approval. The instructional model used to develop the MRA is based on the Kemp, Morrison, and Ross Model (1994). This model is not a linear model and consists of nine revolving elements: instructional problem, learner characteristics, subject content, instructional objectives, sequence content, instructional strategies, instructional delivery, evaluation, and resources. Based on the instructional design process, the program coordinator gathered resources to identify learner competencies, learner characteristics, and instructional objectives, and created a syllabi template to distribute to all faculty and instructors qualified to teach the new courses, with core learning objectives stated for each course. Faculty members created a syllabus for their specific course content that included information on textbooks/journal articles required for the course, program goals, course learning objectives, class policies, expectations, how assignments and learning objectives would be assessed, and

the weekly assignment schedule. The syllabi had to be approved by the department and college curriculum review committees prior to submission of the MRA Implementation Proposal to the Graduate Council.

**Graduate Council Review.** Once the syllabi were approved, the Implementation Proposal was reviewed and approved by the Graduate Council in January 2011. The MRA was included on the Board of Trustees schedule for the next meeting in March. During this time work began with Regional Campuses and college units to develop marketing materials, advertising outlets, and the program website.

**Board of Trustees Review.** Final approval was obtained from the Board of Trustees. With this approval the program could now be advertised and set up to accept online student applications. The program began accepting applications within two weeks after approval. The Graduate College will now send the proposal with comments to the Florida Board of Governors for consideration at the June meeting and the MRA Program will be placed on the state inventory. See Appendix A for the timeline.

## ADMINISTRATION OF THE PROGRAM

The administration of the program resides within the Department of Public Administration under the direction of a program coordinator whose role is to oversee the MRA program. The department chair supervises the program coordinator. This program coordinator is part of the

department's admissions committee that meets monthly to make admission and administrative decisions regarding graduate programs with the department. Currently, members include the coordinator for the Master of Public Administration, the coordinator for the Master of Nonprofit Management, the coordinator of the Master of Science in Urban and Regional Planning, and the departmental coordinator for academic services. The admissions committee reviews applications to make admission decisions regarding all students entering the new program.

## ADVISORY BOARD

In September 2010, the University of Central Florida MRA Advisory Board was formed with a broad array of representatives from public, private, and nonprofit sectors. Criteria used in selecting the members of the board were: recommendations from professional peers and diversity of institutions, expertise, and geographical locations. It was important to hear from those who were active and knowledgeable in the profession, those who might hire graduates of the program, and to have at least one member who could be a potential student of the program. The MRA Advisory Board meets at least three times during the year, face-to-face and virtually, to address resources as well as curriculum and competencies. Many of the members were able to meet at the 52<sup>nd</sup> NCURA Annual Conference in Washington, DC, on November 2, 2010.

Primarily, the advisory board will serve in five areas:

- Providing guidance and input into the MRA curriculum, delivery methods, develop case studies for use in courses, be guest speakers, identify guest speakers, input into student assessment, and program evaluation;
- Engaging in marketing and recruitment of students—input into methods used to advertise the MRA such as a website, and dissemination of program information at professional meetings and conferences;
- Providing names of potential new advisory board members who would contribute to the MRA program;
- Recommending areas for research and collaborations; and
- Coaching students in their culminating event (i.e., matching board members to students as mentors).

The MRA Advisory Board provided guidance in the development of the curriculum and compelling letters of support for the Implementation Proposal. Board members made recommendations on the targeted student population for the MRA Program. It was agreed to first target research administrators already working in the field with approximately five years of experience. The board also recommended targeting career changers such as those in the pharmaceutical industry and other industries experiencing layoffs, but having experience and education in areas such as science that would be useful knowledge for a research administrator.

It was recommended that we create a diverse cohort of students with bachelor's

degree in multiple areas. The goal is to accept students from multiple types of organizations across the nation working in universities, research centers, medical and biomedical research centers, federal agencies, and private research institutions. This will give students an opportunity to build a professional network of research administrators from multiple organizations and locations. It will strengthen the program and enhance the student experience.

**“The goal is to accept students from multiple types of organizations across the nation working in universities, research centers, medical and biomedical research centers, federal agencies, and private research institutions . . . It will strengthen the program and enhance the student experience.”**

## FACULTY SELECTION

Faculty were selected based on particular criteria in regard to the standards specified for graduate programs under the Southern Association of Colleges and Schools Commission on Colleges, the regional body for the accreditation of degree-granting higher education institutions for the region, the university's policies for faculty teaching distance education programs, and the professional

research administration experience of the instructors. The qualifications for the MRA Coordinator required a terminal degree in a related field and qualification as a certified research administrator. Professional experience as a research administrator was required, and some online teaching experience at the graduate level. As an interdisciplinary program, faculty in the Departments of Public Administration, Business Administration, and Legal Studies were also recruited. Because the program is administered by the Department of Public Administration, the hiring and selection of faculty was conducted by the department chair. The program coordinator's hiring and selection committee was composed of five members. The committee included the department chair, two members from the university's research administration office, two public administration faculty and the college research director. The program coordinator selected has a Ph.D. in Instructional Technology, is a Certified Research Administrator (CRA), and has four years teaching online at the graduate level and over 20 years' experience in research administration. Three of the other MRA faculty are CRAs and all but two have terminal degrees. University accreditation and university policy require all faculty teaching online to complete a specific course designed to prepare faculty to teach online using a combination of seminars,

labs, consultations, and web-based instruction. The time commitment requires a minimum of 80 hours. In addition to hiring faculty and instructors, there are plans to include other professionals from the research administration community around the country as guest lecturers to bring a balance of theoretical and practical teaching methods to the program.

### **CURRICULUM FRAMEWORK**

The curriculum focuses on a holistic approach towards equipping students with the complex skills to resolve and explore current issues related to the research enterprise. As mentioned earlier, the Kemp, Morrison, and Ross Model (1994) is being used to develop the program. The MRA will be delivered completely online as required by the NCURA implementation award. Research administrator professional competencies identified by the Research Administrators Certification Council (RACC) were integrated throughout the core courses. The RACC study (2008) examined 206 task statements and 13 knowledge areas. The target student audience is adult working professionals without graduate degrees, who will take two online classes per semester using a cohort model for six semesters. Table 1 illustrates how the RACC areas are integrated into the courses required within the MRA program.

**Table 1. Matrix of RACC's Knowledge, Skills, and Values**

CURRICULUM COMPONENTS RACC <u>KNOWLEDGE, SKILLS AND VALUES</u>	INTRO TO RESEARCH ADMIN	GRANT & CONTRACT MGMT	LEGAL & REGULATORY FWK	FINANCIAL MGMT IN RA	ETHICAL & LEGAL ISSUES	CONTRACT FOR SPON PROG	IP, TECH TRANSFER & COMM	AUDITS FOR RESEARCH ADM	LEADERSHIP & ORG MODELS	HUMAN RESOURCE MGMT	STRATEGIC PLN & MGMT	PUBLIC PROG EVAL TECHN
	<b>I. Project Development and Administration</b>											
A. Collection and Dissemination of Information	X	X					X		X		X	X
B. Proposal Development		X					X		X			
C. Administration of Awards		X	X	X		X		X				
D. Ethics and Professionalism	X				X		X		X	X	X	
E. Intellectual Property							X					
F. Electronic Research Administration		X		X			X	X			X	
<b>II. Legal Requirements and Sponsor Interface</b>												
A. Regulations and Statutes	X	X	X	X	X	X	X	X		X	X	X
B. Compliance – Federal Sponsors and General							X					X
C. Federal/Sponsor Appeal Procedures			X					X				
<b>III. Financial Management</b>												
A. Budgeting/Accounting		X		X			X	X		X	X	X
B. Costs	X	X		X			X				X	X
C. Sponsor Financial Reporting				X				X			X	
<b>IV. General Management</b>												
A. Facility Management	X						X		X		X	
B. Contracts and Purchasing		X					X	X				
C. Records Management							X	X			X	X
D. Human Resource Management										X	X	X
<b>13 Specific Knowledge &amp; Skill Areas</b>												
1. Codes and Regulations		X	X	X	X	X		X			X	X
2. Ethical/Legal Issues	X		X		X							X
3. Management Skills									X	X	X	X
4. Information Management		X		X			X	X				X
5. Leadership Skills									X		X	X
6. Communication Skills	X	X				X	X	X		X		X
7. Analytical Skills			X	X	X	X		X				X
8. Interpersonal Skills	X	X						X	X	X		X
9. Organizational Skills	X	X					X		X		X	X
10. Change Management									X	X	X	X
11. Conflict Management						X	X	X	X	X		X
12. Diversity Management	X								X	X	X	X
13. Financial Skills		X		X		X	X	X			X	X

The overarching goals of the MRA program are to:

- Educate professional research administrators to address the issues facing our research organizations;
- Integrate collaboration and participation of national experts in research into the curriculum;
- Foster a holistic and interdisciplinary approach to problem solving in research administration issues;
- Instill a sense of ethics and service to the research community into new and current professionals; and
- Address the need for providing excellence in research administration within our nation.

Areas of instruction are oriented toward the common challenges encountered in research organizations during various phases of the research process, including: project development, project and financial management, the legal and regulatory requirements, compliance, technology transfer, leadership development, organizational models, and other areas such as ethics and ethical decision-making. The research administration degree program consists of 36 semester credit hours at the graduate level. The twelve courses are all required core courses with

no elective requirements. See Table 2 for a list of courses and brief descriptions of the content to be covered in the courses. Four of the required courses (12 credit hours) are currently offered in the Master of Public Administration program. Eight new courses (24 credit hours) were added to the university's catalog. Existing courses were modified to focus on topics and issues most prevalent to research administrators. For example, the current grant writing and management course has been targeted in the past for those primarily working in not-for-profit organizations, which often are involved in providing social programs and not in conducting research activities. The modified course will emphasize the specific requirements and regulations for the preparation and submission of research proposals as opposed to community program proposals. The Public Program Evaluation Techniques course will be modified to be applicable to the types of research and evaluation projects of interest to research administrators. This course will encompass the MRA program's culminating project where students will be required to develop a program evaluation plan for a research organization integrating the knowledge and skills developed in previous classes in the program.

**Table 2. Courses and Descriptions**

Course Title	Description
<b>Introduction to Research Administration</b>	An overview of research administration lays the foundation for understanding the complex environment of this field. Among the topics covered will be: history of the profession, relationship between research administrator (as liaison) and the various partners in research (faculty member, sponsor, etc.), and purpose and value of research.
<b>Legal and Regulatory Framework</b>	This course outlines the requirements that govern research to include an introduction to the OMB Circulars, the Federal Acquisition Regulations, and other Federal, State, and local regulations as a basis for understanding the legal requirements associated with adhering to sponsor terms and conditions.
<b>Grant and Contract Management</b>	This course covers such topics as how to seek out and identify funding sources, development of applications for funding assistance, and how to respond to requests for proposals from government agencies as well as applications for funding from corporate and foundation sources.
<b>Leadership and Organizational Models in Research Administration</b>	This course introduces general management concepts in preparation for leadership roles in research administration, the tools of managerial decision-making and team building, and acquaints students with theories and principles of various business organizational models in research administration.
<b>Strategic Planning and Management</b>	An examination and analysis of planning, goal-setting, and strategic management in public sector organizations. This is a service learning course. Students will work collaborate with a research office to develop and write a strategic plan.
<b>Human Resource Management</b>	A study of human resource management designed to improve and advance skills through understanding human resource policies, procedures and practices. Topics include: quality customer service, professional development, mentoring, training programs, conflict resolution.
<b>Financial Management in Research Administration</b>	This course builds on the foundation for understanding cost accounting in research administration to include financial concepts related to Facilities and Administrative (F&A) rate proposal and allocation, proposal budget preparation, and cost allocability, allowability and consistency.
<b>Contracting for Sponsored Programs</b>	An introduction to legal concepts/strategies and essential elements of contract formation to include: basic contract types, negotiation, navigating troublesome clauses, subcontracts and sub-recipient monitoring.
<b>Intellectual Property, Technology Transfer and Commercialization</b>	This course focuses on the elements of intellectual property relating to copyright, patents and trademarks. Some of the key concepts covered include: patent law, Bayh-Dole Act, data rights, economic development, licensing and commercialization.
<b>Audits for Research Administration</b>	An overview of the financial and non-financial audit process for research contracts and grants. Topics covered include: cost transfers, CAS exemptions, file maintenance, corrective action plans, and sponsor site visits.
<b>Ethical and Legal Compliance</b>	A study of critical compliance issues and the importance of responsible conduct of research. Among the topics covered will be: protection of human/animal subjects, research misconduct, export control, conflicts of interest, etc.
<b>Public Program Evaluation Techniques</b>	A study and application of the techniques and skills utilized in the evaluation of public programs. This course requires students to integrate previous course learning into the development of a program evaluation plan for a research organization. Students will develop the methodology for data collection and data analysis and relate these to the performance of the organization. The course is the culminating experience for graduate students.

Actual course development will begin this summer and over the next year, with MRA faculty working in collaboration with MRA advisory board members, subject matter experts in research administration, the UCF Faculty Center for Teaching and Learning, and UCF Webcourses Development.

## **LEARNING OUTCOMES**

In order to reach the primary learning outcome, graduates of the MRA program must demonstrate their effectiveness as research administration professionals. Effectiveness means the application of knowledge and skills to facilitate the development of vision and goals, create and implement research development activities, and solve issues and problems presented during the implementation of research programs. An overarching theme of this learning outcome is the long-term comprehensive perspective embodied in the holistic program of study. In a broad sense, students will be expected to complete the program with a mastery of foundational concepts involving the administration, legal requirements, ethical conduct and compliance, proposal development, budgeting, contract negotiations, human resources, financial management, comprehensive strategic planning, the responsible conduct of research, intellectual property, technology transfer, commercialization, resource management, and the social aspects of research administration.

To meet the secondary learning outcome, graduates will employ critical reflective perspectives concerning the creation of knowledge, the application of research administration skills, and professional practice and ethics. They must continually consider their own values and those of their research communities in undertaking the administration of research. Their reflection will consider issues of research facilitation, professional integrity and accountability, and research development and sustainability. In addition, the expected skills a research administrator should possess include problem-solving and implementation. Thus, the learning outcomes will be focused on problem formulation, research skills, data gathering, and analytic techniques including statistical methods, forecasting, and data analysis. In the Program Evaluation Techniques course, students are expected to synthesize knowledge and experience gained throughout the MRA program of study in a culminating project that is relevant to research administration. The MRA program will be evaluated and assessed annually as part of the UCF Institutional Effectiveness Plan. Specific indicators will measure the success of reaching targeted learning goals and outcomes to determine the effectiveness of the program of study. This annual assessment will provide formative data that can be used to modify curriculum and instruction to improve student performance.

## **LESSONS LEARNED AND CONCLUSION**

Establishing a new graduate program in an accredited institution of higher education takes both time and patience. First, it is imperative to have the support of the chair of the department in which the graduate program will be situated. The chair will be invaluable as a resource in understanding and learning the institution's process and procedures and in formulating the proposals for submission to the college and university review committees. In this particular case, the target was to prepare research administrators who could work in various research areas, such as engineering, technology, education, and healthcare, and work in either large research institutions or smaller liberal arts colleges. Therefore, it was appropriate to create and base the program in Public Administration. Other graduate programs in research administration have strengths in clinical research or life sciences research and have established their programs in other departments within their institutions that align with their particular focus. In addition, the chair is knowledgeable of the restrictions and requirements demanded under the regional accrediting body and the state's requirements specific to graduate programs.

Second, it is also important to anticipate any issues that may arise from related disciplines and to have discussions with other departments for opportunities to collaborate during the initial planning

process. This will avoid issues or "turf wars" that could arise when the white paper is distributed to all college deans in the event of overlaps in curriculum. Having faculty with expertise in multiple areas will help strengthen the program. This MRA program was able to partner with Legal Studies and two of the courses will be taught from legal experts in regards to legal regulatory issues. The faculty from Business Administration who will be teaching the IP, technology transfer, and commercialization course is currently a leader in university incubators, has experience teaching, and is the associate vice president of research. Third, one of the most advantageous assets for this MRA program has been the advisory board. Having an advisory board of highly knowledgeable and respected research administrators from different types of institutions is invaluable in creating a program that is relevant, rigorous, and comprehensive. The advisory board has contributed immensely to the creation of the program and plans to continue to provide its input and feedback as courses are being built online. The advisory board will also contribute to the evaluation and assessment of the MRA program to identify necessary modifications and updates to the program of study. In addition, the advisory board will generate a vision for future possibilities and directions for the program.

## **FUTURE RECOMMENDATIONS**

As the research administration profession moves forward and other advanced degree programs are established, it will be important to create an

accreditation body for such programs. External reviews ensure the quality of a degree program and provide some assurance and protection for interested professionals seeking an advanced degree in research administrator. Accreditation encourages those who offer these programs to closely examine their content, advocating continuous improvement of programs and student performance.

**“Publications are important within any emerging professional field. In the near future it will be important to identify numerous peer-reviewed journals interested in research administration that will promote rigorous research into the practice, methodologies, and the formation of theories related to the administration of research.”**

Publications are important within any emerging professional field. In the near future it will be important to identify numerous peer-reviewed journals interested in research administration that

will promote rigorous research into the practice, methodologies, and the formation of theories related to the administration of research. Having advanced degree programs means that tenure-earning faculty will be conducting research within research administration who will need to publish their studies in multiple peer-reviewed journals. Research published in the field may also lead to the publication of textbooks and other resources that could be used as part of the MRA course content. Currently, limited numbers of textbooks related to research administration are available.

There are plans to extend the MRA program in the near future to accept international students. Having research administrators from other countries enrolled in the MRA program will contribute to a better understanding of issues and challenges faced when conducting international research collaboration and will enable the building of global networks among research administrators and research institutions and programs.

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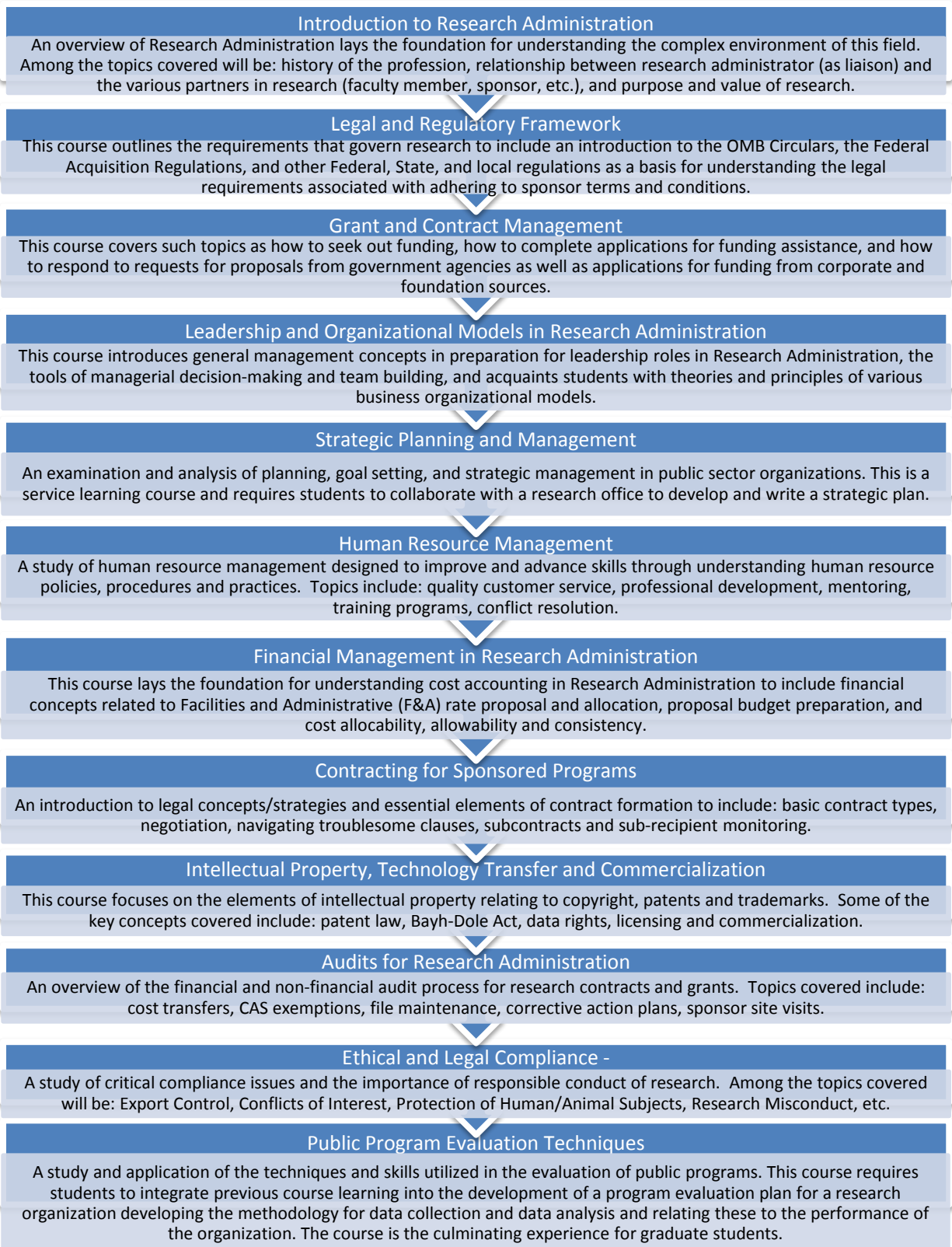
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## APPENDIX A PLANNING TIMELINE

<b>Date</b>	<b>Participants</b>	<b>Planning Activity</b>
Sept. 2009	Department Chair, Assistant VP of Research, Senior Contracts Manager, Director of College Research Center	Meetings to discuss and develop proposal to NCURA for MRA program
Oct. 2009	Department Chair, Assistant VP of Research, Senior Contracts Manager, Director of College Research Center	Submitted proposal to NCURA
Dec. 2009	Department Chair, Assistant VP of Research, Senior Contracts Manager, Director of College Research Center	Notification of Award from NCURA
Dec. 2009	Department Chair	White paper Submitted to College of Graduate Studies
Spring 2010	Vice Provost & Dean of Graduate Studies	White Paper Approved
May–Aug. 2010	Department Chair, Assistant VP of Research, Senior Contracts Manager, Director of College Research Center	Recruited and hired Program Coordinator
Aug.–Sept. 2010	Department Chair, Assistant VP of Research, Senior Contracts Manager, Director of College Research Center, MRA Advisory Board	Advisory Board created Identify program faculty Competencies identified Draft curriculum
Sept. 2010	Department Chair, Program Coordinator, Vice Provost & Dean of the Graduate College	Discuss implementation proposal and forms
Sept. 2010	Department Chair, Program Coordinator	Meeting College of Graduate Committee
Sept. 2010	Department Chair, Program Coordinator, MRA Advisory Board	Began writing the implementation plan
Oct.–Dec. 2010	Department Chair, Program Coordinator, MRA Advisory Board	Writing Implementation Plan Develop Course Syllabi
Oct. 2010	Regional Campuses Director, Department Chair, Program Coordinator	Meeting Regional Campus to formulate program costs and tuition and receive support for new program
Oct.–Nov. 2010	Department Chair, Program Coordinator, Vice Provost & Dean of Graduate Studies	Meeting on Implementation Plan and draft submission Revisions to draft
Oct. 2010	Department Chair, Program Coordinator	Approval Department /College
Jan. 2011	Department Chair, Program Coordinator	Approval Graduate Council
Feb. 2011	Department Chair, Program Coordinator	Complete Final Draft Send Proposal to BOT
March 2011	Regional Campuses Director, Department Chair, Program Coordinator	Meeting Regional Campus to discuss marketing new program
March 2011	Department Chair, Program Coordinator	BOT approval sought and obtained

## EVENTS LEADING TO IMPLEMENTATION

<b>Date</b>	<b>Implementation Activity</b>
April 2011	Disseminate marketing materials and advertising Hold virtual open houses to inform the community Accept student applications
May 2011	Schedule classes / Review admissions
Aug. 2011	Admit first cohort to program Classes begin
Aug. 2012	Admit second cohort to program
May 2013	Graduate first cohort from program



# 2010 Profile of a Research Administrator

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Full-text Article PDF Online:

[http://www.ncura.edu/content/news/rmr/docs/v18n1\\_2010\\_RA\\_Profile.pdf](http://www.ncura.edu/content/news/rmr/docs/v18n1_2010_RA_Profile.pdf)

## ABSTRACT

This paper expands upon the seminal work of Roberts and House, which described the first empirical study of the demographic profile of a research administrator. The original work was based upon data from the 2005 Research Administrator Survey (RAS), a regional study of research administrators in the southeastern United States. In this paper, nationwide demographic data from the 2010 Research Administrators Stress Perception Survey (RASPerS) are compared to the 2005 RAS data. These comparisons revealed that the general profile of a research administrator continues to be overwhelmingly female (80.1%), holding a higher education degree (88.7%), and aged 40–49 years (31.9%). The 2010 data showed an extremely significant difference in the modal salary level, which increased from \$50,000 to \$74,999 (40.0%). In 2005, the increase was from \$40,000 to \$50,000 (23%). Level of education was slightly higher in 2010 than in 2005, with more research administrators holding both bachelor's and master's degrees. Additional demographic and social data are described from the 2010 RASPerS. These include both work and non-work factors. These data are offered to provide information that may be useful for others with an interest in expanding the body of knowledge about the profession of research administration.

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## INTRODUCTION

While a body of information is constantly growing pertaining to what

research administrators do, or are supposed to do, little has been done to date to describe who research administrators are as

a profession. As pointed out by Beasley (2006), this emerging profession really came into being in the 1940s after Vannevar Bush persuaded President Franklin Delano Roosevelt to create an agency that would coordinate collaboration between federal and civilian laboratories. Hanson and Moreland (2004) reflected upon the conundrum research administrators face in their constant balancing between the sometimes competing demands of sponsoring agencies and over-worked academic researchers. Research administrators must assume many roles, perform both complex and mundane functions, and act as a liaison with both internal and external parties. It takes a multi-talented and mission-dedicated individual to thrive or succeed in the profession. And, as shown in the 2007 RASPerS (Shambrook & Brawman-Mintzer, 2007), research administrators perceive this work to often be done in a stressful environment with little recognition from their non-administrative colleagues to whom they are providing a service.

**“Research administrators must assume many roles, perform both complex and mundane functions, and act as a liaison with both internal and external parties. It takes a multi-talented and mission-dedicated individual to thrive or succeed in the profession.”**

Who are the people who make up this profession? Prior to the 2006 publication by Roberts and House, solid empirical demographic data did not exist for research administrators. In this paper, we update this seminal work using more recent national, rather than regional, data. Comparisons are made that both serve to validate the original work and reveal some differences that indicate professional trends. Finally, additional demographic factors have been added that provide baseline data for additional studies that may seek to expand the body of knowledge about this emerging profession.

## METHODS

Both the RAS (Roberts, 2005) and 2010 RASPerS (Shambrook, 2010) recruited participants from a closed population of research administrators who were members of the National Council of Research Administrators (NCURA). The RAS recruited solely from NCURA Region III, which is comprised of eleven Southeastern states and the Territory of Puerto Rico. Through the selection and randomization process described in Roberts and House (2006), there were 277 potential study participants for the electronic survey. The usable return rate was 83%, with 226 total survey participants. Thus, with a confidence level of 99%, the confidence interval was 3.69.

The 2010 RASPerS (Shambrook, 2010) modeled several demographic factors after the 2005 RAS in order to make valid comparisons, but expanded recruitment to include the entire nationwide membership

of NCURA. Expanding the catchment area for recruitment was a recommendation for Roberts and House (2006). The 2010 RASPerS also sought to make comparisons with Behavioral Risk Factor Surveillance Survey (BRFSS) data from the U.S. Centers for Disease Control and Prevention (CDC). Therefore, some factors were somewhat adjusted in the survey (e.g., salary ranges) and others were added (e.g., ethnic heritage and marital status). It was the intent of the 2010 RASPerS questionnaire to generate data that could be compared with data from both previous surveys (RAS and BRFSS). The National Institute of Occupational Safety and Health (NIOSH, n.d.) Non-Work Factors Scale from the *NIOSH Generic Job Stress Questionnaire* was used to collect information about other commitments (e.g., eldercare or pursuing another academic degree).

The composite 2010 RASPerS questionnaire consists of 12 components which include demographic data, non-work activities, three instruments for health behaviors, and seven stress-related instruments. These are preceded by an introduction, participant rights statement, and statement of consent.

The data collection process began with an email to the entire membership of NCURA with a link to the 2010 RASPerS electronic survey. The total population of the NCURA membership was 6,232 at the time of the survey in February 2010. A total of 1,188 participants took portions of the

future study in the 2006 RAS article

survey. As comparisons were being drawn between multiple factors of the survey, the *N* varied among the 12 survey instruments which were combined to make up the composite survey. However, for a 99% confidence level with a confidence interval of 4.0, only 891 responses were needed and over 1,000 responses were collected for each of the instruments, generating a 99% level of confidence and confidence intervals of less than 4.0 for each instrument.

Approved protocols for human participant protections were in place by the appropriate Institutional Review Boards for the RAS at the University of Central Florida and 2010 RASPerS at Walden University. Data were analyzed using both descriptive and inferential techniques. Frequencies and percentages are shown for all factors. Fisher's Exact Test was used in comparing two factors and Cochran-Armitage Trend Test was used for multiple factors to determine statistical level of significance.

## RESULTS

### Work-related Factors

Work-related data gathered by the 2010 RASPerS included primary research administration role, number of years in research administration, certified research administrator status, annual salary, usual number of hours worked per week, and health insurance status. These data are shown at Table 1.

**Table 1. Work-related Factors as Shown in 2010 RASPerS**

Work-related Factor	Frequency	% Population
<b>Primary Research Administration Role</b>		
• Department Administrator	348	30.3%
• Pre-Award	340	29.6%
• Post-Award Accounting	208	18.1%
• Research Integrity/Compliance	36	3.1%
• Other	216	18.8%
Total N	1,146	100%
<b>Number of Years in Research Administration</b>		
• < 1 year	27	2.3%
• 1 < 5 years	288	25.1%
• 5 < 10 years	305	26.5%
• 10 < 20 years	353	30.7%
• ≥ 20 years	178	15.3%
Total N	1,149	100%
<b>Certified Research Administrator status</b>		
• Yes	161	14.1%
• No	984	85.9%
Total N	1,145	100%
<b>Annual Salary as a Research Administrator</b>		
• <\$35,000	29	2.5%
• \$35,000 –\$49,999	205	18.0%
• \$50,000 –\$74,999	455	40.0%
• \$75,000 –\$99,999	246	21.6%
• ≥ \$100,000	203	17.8%
Total N	1,138	100%
<b>Hours Worked per Week</b>		
• ≤ 40	281	24.5%
• 40 < 45	332	28.9%
• 45 < 50	300	26.1%
• 50 < 60	193	16.8%
• ≥ 60	42	3.7%
Total N	1,148	100%
<b>Health Insurance Status</b>		
• Yes	1,120	99.5%
• No	6	.5%
Total N	1,126	100%

As shown in Table 1, there is a broad distribution across research administrator roles with fairly even distribution between department administrators (30.3%) and pre-award administrators (29.6%); post-award accounting (18.1%) and all other (18.8%); about 3.1% were working in research integrity or compliance roles.

The mode for number of years in research administration was 10 < 20 years (30.7%). The percentage with 5 < 10 years (26.5%) and 1 < 5 years (25.1%) were very similar to one another. Only 2.3% had less than 1 year of experience. There were 15.3% with 20 or more years of experience as research administrators. Health insurance was held by 99.5% of the participants. Only 14.1% indicated that they held credentials as Certified Research Administrators. The mode annual salary was \$50,000 to \$74,999. Less than 3% earned salaries of less than \$35,000. A total of 17.8%

reported salaries of over \$100,000. This is comparable to data reported by the Bureau of Labor Statistics (BLS), U.S. Department of Labor, which shows the median annual income for all professionals at \$59,748 and for all full-time employees with a bachelor's degree or higher at \$60,216 (Bureau of Labor Statistics, 2010).

The mode for hours usually worked per week was from 40 to 45 hours (28.9%). This was followed closely (26.1%) by those working 45 < 50 hours per week. A total of 16.8% reported routinely working from 50 < 60 hours per week and 3.7% reported working 60 or more hours per week.

### **Social Demographic Factors**

Social demographic information gathered by the 2010 RASPerS included gender, age, race/ethnic group, marital status, and highest level of educational achievement. These data are shown in Table 2.

**Table 2. Social Demographic Factors as Shown by 2010 RASPerS**

Social Demographic Factors	Frequency	% Population
<b>Gender</b>		
• Female	915	80.1%
• Male	228	19.9%
Total N	1,143	100%
<b>Age</b>		
• <30	87	7.6%
• 30–39	266	23.2%
• 40–49	365	31.9%
• 50–59	331	28.9%
• ≥ 60	96	8.4%
Total N	1,138	100%
<b>Race/Ethnic Group</b>		
• Non-Hispanic White	954	83.4%
• Hispanic	56	4.9%
• African-American	72	6.3%
• Asian	41	3.6%
• Native Hawaiian or Pacific Islander	3	0.3%
• Native American	10	0.9%
• Prefer not to answer	24	2.1%
Total N	1,144	100%
<b>Marital Status</b>		
• Married	745	65.5%
• Partnered	60	5.3%
• Separated	12	1.1%
• Divorced	141	12.4%
• Widowed	13	1.1%
• Never married	167	14.7%
Total N	1,138	100%
<b>Highest Level of Educational Achievement</b>		
• High school or GED	7	0.6%
• Some college credit	90	7.9%
• Associate’s degree	31	2.7%
• Bachelor’s degree	475	41.4%
• Master’s degree	428	37.3%
• Doctoral degree	115	10.0%
Total N	1,146	100%

RASPerS 2010 national data show that research administration is a profession that is 80.1% female. The modal age group was 40–49 years, at 31.9%, closely followed by 50–59 years at 28.9%. Only 30.8% were under 40 years of age. Over 70% of research administrators reported being either married (65.5%) or partnered (5.3%). A total of 1.1% reported being widowed; 14.7% reported having never been married; and only 13.5% were either separated (1.1%) or divorced (12.4%). These data reflect a similar distribution to that reported by the Pew Charitable Trusts (PEW), with 64% of college-educated adults being married (Pew Charitable Trusts, 2010).

Research administrators overwhelmingly reported educational achievement of bachelor's degree or higher at 88.7%. Of the 11.3% without a higher degree, 10.7% reported having either some college (7.9%) or an associate's degree

(2.7%). Less than one percent (0.6%) reported only having a high school education or GED, or only seven out of 1,146 participants. Master's degrees were held by 37.3% and doctoral degrees were held by 10%.

### **NIOSH Non-Work Factors**

Additional non-work demographic factors were measured in the 2010 RASPerS which were considered as possible contributing factors to overall stress (NIOSH, n.d.). These factors are offered here to further describe the demographic make-up of research administrators shown in Table 3. These factors include participant reporting of an additional job; children in the home; primary responsibility for childcare duties, house-cleaning duties, or care for an elderly or disabled person; current enrollment in courses for a degree; and/or a high level of time commitment to volunteer work.

**Table 3. NIOSH Non-Work Factors as Shown by 2010 RASPerS**

NIOSH Non-work Factor	Frequency	% Population
<b>Additional Job</b>		
• Yes	163	14.3%
• No	976	85.7%
Total N	1,139	100%
<b>Children at Home</b>		
• Yes	467	40.9%
• No	676	59.1%
Total N	1,143	100%
<b>Primary Responsibility for Childcare Duties</b>		
• Yes	298	26.2%
• No	839	73.8%
Total N	1,137	100%
<b>Primary Responsibility for House-cleaning Duties</b>		
• Yes	844	74.2%
• No	293	25.8%
Total N	1,137	100%
<b>Primary Responsibility for Care of Elderly or Disabled Person</b>		
• Yes	116	10.1%
• No	1,027	89.9%
Total N	1,143	100%
<b>Currently Enrolled in Courses for Credit toward a Degree</b>		
• Yes	163	14.3%
• No	977	85.7%
Total N	1,140	100%
<b>Volunteer Work of at Least 5–10 Hours per Week</b>		
• Yes	305	26.9%
• No	829	73.1%
Total N	1,134	100%

Participants reporting having extensive non-family related commitments included 14.3% having an additional job and 14.3% being currently enrolled in courses leading to a degree. A higher percentage, 26.9%, reported devoting at least 5–10 hours each week to volunteer work in addition to their research administration jobs.

Children living in the home were reported by 40.9% of the participants, but only 26.2% reported having primary responsibility for childcare duties. Primary responsibility for care of an elderly or disabled person was reported by 10.1%. Participants overwhelmingly reported having primary responsibility for house-cleaning duties at 74.2%.

### **Comparisons of 2005 RAS and 2010 RASPerS**

Table 4 shows a comparison between the regional 2005 RAS and the national 2010 RASPerS. The purpose of this analysis was

to determine the validity of the 2005 RAS regional data by comparison with the 2010 RASPerS national data. A  $p$ -value equal to or less than 0.05 indicates a significant difference between data sets. As shown in Table 4, no significant difference is shown among gender, age, or education when comparing the results of the two data sets. There is a weak (non-significant) difference in education, which indicates that a trend may be developing toward higher educational attainment. The only significant difference shown was in the area of salaries, which were significantly higher in 2010 than in 2005. In 2005, only six out of ten participants reported having annual earnings of greater than \$50,000; in 2010, eight out of ten reported having earnings greater than \$50,000 per year. This indicates an extremely significant difference between annual incomes reported for 2005 and 2010.

**Table 4. Comparison of Selected Demographic Factors from 2005 RAS and 2010 RASPerS**

Demographic Factor	2005 RAS N (%)	2010 RASPerS N (%)	Significance P value
<b>Gender</b>			
• Female	172 (76%)	915 (80%)	0.18 <sup>a</sup>
• Male	54 (24%)	228 (20%)	
Totals	226 (100%)	1,143 (100%)	
<b>Age</b>			
• <30	7 (3%)	87 (7.6%)	0.47 <sup>b</sup>
• 30–39	55 (24%)	266 (23.2%)	
• 40–49	82 (36%)	365 (31.9%)	
• 50–59	66 (29%)	331 (28.9%)	
• ≥ 60	16 (8%)	96 (8.4%)	
Totals	226 (100%)	1,145 (100%)	
<b>Highest Level of Educational Achievement</b>			
• High school or GED	5 (2%)	7 (0.6%)	0.057 <sup>b</sup>
• Some college credit	29 (13%)	90 (7.9%)	
• Associate’s degree	3 (1%)	31 (2.7%)	
• Bachelor’s degree	89 (40%)	475 (41.4%)	
• Master’s degree	73 (32%)	428 (37.3%)	
• Doctoral degree	27 (12%)	115 (10.0%)	
Totals	226 (100%)	1,146 (100%)	
<b>Salary as Research Administrator</b>			
• < \$50,000/year	86 (39%)	234 (21%)	<0.0001 <sup>a</sup>
• ≥ \$50,000/year	136 (61%)	954 (79%)	
Totals	222 (100%)	1,138 (100%)	

a: Fisher’s Exact Test *p*-values

b: Cochran-Armitage Trend Test *p*-value

Notes:

- Gender and Age distribution does not seem to change from 2005 to 2010.
- There seems to be some evidence of an overall trend of having higher level of education in 2010 compared to 2005, while this finding is not strong.
- There is a significant change from 2005 to 2010 in salary, where every 8 out of 10 people have salaries above \$50,000 in 2010 while only 6 out of 10 did so in 2005.

## CONCLUSION

The regional 2005 RAS data are supported and validated by the national 2010 RASPerS with respect to age, gender, and education. There is an extremely significant difference in income. This difference may be attributed, in part, to an overall 13.5% rise in national median annual income for all wage and salary earners in the U.S. (Bureau of Labor Statistics, 2010).

Research administrators may be described as a nearly homogenous group who are overwhelmingly university degreed (88.7%), female (80.1%), earning an annual income of over \$50,000 (79.4%), with a majority over 40 years of age (69.2%).

Other demographic factors show research administrators to be either married (65.5%) or partnered (5.3%), having more than five years of experience in research administration (72.6%), and working more than 40 hours per week (75.5%). Research administrators overwhelmingly have health insurance coverage (99.5%).

## RECOMMENDATIONS FOR FURTHER STUDY

The demographic profile of research administrators may be used as foundational information in the further study of this or similar occupational groups. Further study is recommended of possible associations among salary, gender, ethnicity, and other demographic factors.

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# From 9/11 to Recession: Historically Significant Events in America and Their Impact on Research Administration

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## ABSTRACT

Federally sponsored research funding sources are not stagnant programs. Many things influence the nature of research, not all of them purely scientific. Historically significant events draw public attention to causes, and in the age of immediate information those events can have a powerful and lasting impact on research funding. September 11, 2001 is a day America will never forget, and because of this major event, sponsored research focused on protecting the nation from attack and building up national defense became a high priority. Similarly, while the nation has been mired in recession from late 2007 up to the present day, job creation through research funding became an important focus for the nation and has led to the passing of an enormous funding package to accomplish this task. Neither of these events has a foundation in academic research, but both have had a significant impact on research and how research administrators operate on a daily basis.

## INTRODUCTION

Historically significant events have a substantial impact on a university campus. From social to academic life, the ease of information transfer affects both students

and faculty. Significant incidents can also have a direct impact on how research is conducted; public interest in research is a direct result of history-shaping events. As the nation's concerns and values shift, federal research funding appropriations and

how those funds are distributed to scientists are impacted. Events such as the terrorist attack on September 11<sup>th</sup>, 2001 caused a dramatic effect that is still felt in the research community today. Other events, such as what is being called “The Great Recession”, also created public outcry for government action and once again caused research to fundamentally change. Because of these changes, the work of research administrators is constantly shifting to meet the new demands of federal sponsors and the compliance requirements that accompany alterations to the research funding system. The following case studies demonstrate how historically significant events, specifically the September 11<sup>th</sup> terrorist attacks and the Great Recession, have a direct effect on the enterprise of sponsored research.

### **CASE STUDY: SEPTEMBER 11, 2001 TERRORIST ATTACKS**

On September 11<sup>th</sup>, 2001 the world changed forever with the terrorist attacks on New York City and the Pentagon in Washington, DC. The nation mourned together and simultaneously turned to elected leadership for solutions and a way to respond.

The changes enacted by the U.S. government in the days, weeks, months, and years following September 11<sup>th</sup> have profoundly altered the landscape of U.S. policy, and research has been affected by these changes.

In February 2002, President George W. Bush released the first federal budget in a

post-September 11<sup>th</sup> climate. It included a dramatic increase for homeland security efforts from \$19.5 billion to \$37.7 billion (U.S. Department of Homeland Security, 2008, p. 6). In his June 2002 address to the nation, President Bush outlined his plan for improved homeland security, which included building on an existing framework for funding basic and applied research in order to develop strategic tools for the advancement of homeland security. He stated “The new Department would consolidate and prioritize the disparate homeland security related research and development programs currently scattered throughout the Executive Branch” (U.S. Department of Homeland Security, 2002, p. 4). Funding for research and development would now be consolidated under the new Department of Homeland Security, which would be responsible for determining and adhering to appropriate federal compliance regulations.

**“The changes enacted by the U.S. government in the days, weeks, months, and years following September 11th have profoundly altered the landscape of U.S. policy, and research has been affected by these changes.”**

In addition to changes in the organization of the federal government’s approach to homeland security, it began to take a more active approach to the protection of information and its transfer to

groups and countries that could potentially use it to harm the nation or its allies. Increased emphasis on export control regulations meant that research done in a university setting could be subject to the control of the U.S. Department of State, Directorate of Defense Trade Controls International Traffic in Arms Regulations (ITAR) (U.S. Department of State, 2010) and the U.S. Department of Commerce's Bureau of Industry and Security Export Administration Regulations (EAR) (Export Administration Regulations Database, 2010). These regulations had been in force since their development during the Cold War period, but increased scrutiny on seemingly innocuous things following an attack using ordinary passenger jets mandated that the government more closely monitor things previously viewed as innocent, such as the research and development enterprises in place at universities around the country. Besides this increased emphasis on specific export control regulations, other restrictions began to appear in contract terms. Clauses were included in federal contracts that dramatically restricted the freedom of investigators to hire foreign nationals as graduate students and post-doctoral scholars.<sup>1</sup> Some contracts were saddled with clauses to completely restrict any publication of the results of a project in order to avoid disclosing national security secrets. By early 2002, funding agencies with specific national security interests, such as the Army Research Laboratory, even began to issue new clauses containing

strict policy guidelines for information requiring government review prior to public release.<sup>2</sup> Clauses, such as DEAR 952-204.73 Facility Clearance, were also augmented in early 2002 as a direct result of the need to more closely monitor activities that had once been perceived as free from potential malice.

Finally, the President and Congress proceeded to enact unprecedented increases in the budget for the U.S. Department of Defense—another measure put into place in the wake of an attack that had revealed a nation unprepared to defend itself against assault. The budget for the DoD in fiscal year 2002 was \$328.9 billion (U.S. Department of Defense, 2003). By fiscal year 2011, the budget grew to \$708 billion for defense, including \$159 billion to fund ongoing military operations in Afghanistan and Iraq (U.S. Department of Defense, 2011).

## **DIRECT RESULT FOR RESEARCH AND RESEARCH ADMINISTRATION**

In the aftermath of the September 11<sup>th</sup> attacks, researchers found themselves with an opportunity to participate in the defense of the nation through their laboratories. The new U.S. Department of Homeland Security pursued a research agenda that had been consolidated into one agency and that was ready to push out funding in the name of protecting the nation and its people. New organizations such as the Transportation Security Administration were founded under the auspices of the new DHS and quickly began to push for the improvement

of transportation security infrastructure through research funding programs, a practice that continues to this day (Transportation Security Administration, 2009). This development required researchers and research administrators to learn the policies and requirements of a brand-new agency, with an added element of difficulty in that the agency itself was still in the process of writing the requirements. Its funding principles were similar to those of other federal sponsors, but necessitated time and dedication in order to learn the requirements to guarantee that safe and successful research projects would be conducted.

**“In the aftermath of the September 11<sup>th</sup> attacks, researchers found themselves with an opportunity to participate in the defense of the nation through their laboratories.”**

While the requirements of a new agency were being introduced, existing agencies were working to improve security measures and make certain that sensitive information was properly controlled. New terms such as “sensitive, but unclassified” (Ricks, 2004) became familiar to researchers and research administrators. Searching for the balance between fostering free and open collaboration among scientists, and protecting information that could potentially profit those who wished to do harm became one of the most important issues in the post-September 11<sup>th</sup> research administration environment. The mission of

universities to publish the results of research in order to advance scientific knowledge had to be balanced with the reality that publications were read by friend and foe alike. Limiting the information available to potential enemy combatants was of paramount importance. Research administrators became responsible for ensuring that faculty members retained the rights to use their work and further the science in the field, while at the same time keeping national security in mind. The number of projects subjected to tight regulations and serious consequences for making mistakes (University of Tennessee, Knoxville, n.d.) continued to increase to the point where employing a full-time export control officer in addition to experts in contract negotiation became necessary, as was the case at the University of Tennessee in 2004 (Witherspoon, 2009). Even with a dedicated export control officer, clarifying the intricacies of limited publications, deemed exports, and foreign national restrictions has required research administrators at the department and central office levels to become familiar with government policy in order to protect faculty research efforts (University of Tennessee, Knoxville, Office of Research, 2008). Professional development for both faculty and staff is now offered regularly and in various formats by university administrations desperate to stay ahead of the rapidly changing post-September 11<sup>th</sup> research security landscape (University of Tennessee, Knoxville, Office of Research, 2009).

Since the September 11<sup>th</sup> attacks, the dramatic uptick in funding for the DoD has had the most significant impact on research. In light of tighter controls and the idea of “sensitive but unclassified” work, funding through contracts with the DoD is more involved and requires more oversight than it did prior to the September 11<sup>th</sup> attacks. More negotiation is required at the beginning of a contract to promote the proper balance between protection and freedom of scientific collaboration, as well as increased monitoring of the project throughout the period of performance to see that basic research does not cross a line into applied research without the proper control mechanisms in place. However, the more dramatic effect of this budget increase is what has *not* happened during this period. From fiscal year 2003 to fiscal year 2009, as the DoD budget increased by more than 50%, the budget for the National Institutes of Health (NIH) was increased by less than 13% (National Institutes of Health, 2011). The National Science Foundation (NSF) budget was increased by just over 21% (National Science Foundation, 2011). While research dollars were stagnant, the DoD budget went from billions of dollars to almost three-fourths of a trillion dollars each year.

Arguments have been made that the funding stagnation in these critical areas of basic scientific research could cause an entire generation of scientists to leave the profession before they can establish themselves due to a lack of support (Casey, 2008). In this new reality, the role of the

research administrator has become increasingly valued at many institutions, as the number of proposals submitted has increased but the disparity in funding among federal agencies has led to a drop in the percentage of successful proposals. According to data presented in March 2011 at the National Science Foundation Regional Grants Conference, of 21,792 proposals submitted in 2001, 31% were awarded funding. By fiscal year 2010, the number of proposals submitted had almost doubled to 42,547, but the percent awarded funding had decreased to just 23%. Arguments can

**“As the requirements continue to increase, the knowledge and expertise of the research administrator must also continue to grow and expand in order for the faculty to remain competitive.”**

be made regarding which areas of research and research administration were most dramatically impacted, but for better or worse, researchers have come to rely heavily on the expertise of research administrators in departments and central offices in order to increase the chances that their proposal will be scored as competitive. This need for experienced research administrators to guide the faculty has directly impacted everything from biomedical research to research related to national defense. As the requirements continue to increase, the knowledge and

expertise of the research administrator must also continue to grow and expand in order for the faculty to remain competitive.

### **Case Study: The “Great Recession” of 2007–2009**

In late 2007, the United States officially entered a period that has come to be colloquially called “The Great Recession.” As an economic downturn is only classified as a recession following two consecutive quarters of negative economic growth, it was not until the bankruptcy filing of the Lehman Brothers bank in September 2008 that most Americans became familiar with terms like “too big to fail” and “federal bailout.” The national unemployment rate went from 5.0% in December 2007 to 8.2% in February 2009, and continued to rise until October 2009 when it peaked at 10.1% (U.S. Department of Labor, 2011). The stock markets plummeted to half of previous values as individual investors and corporations alike looked to the government for a solution to a recession that seemed endless. On February 17, 2009, government assistance arrived in the form of the American Recovery and Reinvestment Act (ARRA) of 2009, signed into law by President Barack Obama. As “a direct response to the economic crisis, the Recovery Act has three immediate goals: Create new jobs and save existing ones, spur economic activity and invest in long-term growth, and foster unprecedented levels of accountability and transparency in government spending” (Recovery.gov, 2009). A total of \$787 billion was obligated

for tax cuts, education, health care, and unemployment benefits, and for federal grants and contracts investment.

As a result of the stimulus program, March 2009 saw federal agencies like NIH and NSF go from famine to feast, a complete reversal of the previous administration’s funding policies following in the wake of the September 11<sup>th</sup> attacks. The stimulus package provided an additional \$10.8 billion (National Institutes of Health, 2009) to the NIH and an additional \$3 billion (National Science Foundation, 2009) to NSF, over and above what was already appropriated in the yearly operating budgets for these agencies. This influx of funding came in the form of new solicitations under recovery-specific programs, award supplements to current projects, and projects that had previously been submitted and scored high marks for scientific merit, but had been rejected due to lack of available funding. In addition to the significant emphasis major research institutions placed on obtaining Recovery Act funds, faculty who historically did not compete for research funds heard about the opportunities available through the new ARRA funds and were encouraged to enter the sponsored research field. Universities of all sizes began to plan for significant increases in proposal and award volume due to the availability of stimulus funds.

### **DIRECT RESULT FOR RESEARCH ADMINISTRATION: ARRA REPORTING AND INCREASED COOPERATION**

Oversight of the ARRA investment is a top priority for Congress and the President, and thus significant reporting requirements are attached to the funds marked for research grants and contracts. Under the terms of section 1512 of the Recovery Act (Recovery.gov, 2009) reporting must be completed within ten days of the end of each quarter and must contain the total award amount, the amount obligated and expended, the unobligated balance, and a detailed list of the project activities that were supported by the funds. Details such as a description of the projects, an evaluation, and the number of jobs created using the funds must also be included in the report (Brown University, 2009). For many institutions, this has become an “all hands on deck” process. When an ARRA award arrives in the pre-award office, it is imperative for the research administrators reviewing the documents to correctly identify and mark the funds as ARRA. An important detail for the pre-award office to note in the award documents is the quarter in which the award was fully executed. Even if the award was executed on the last day of a quarter and the performance period does not take effect until the first day of the next quarter, reports must be filed for the quarter in which the award was fully executed. However, once the pre-award office identifies the funds as ARRA, the majority of the burden falls on the department, faculty member, and post-award financial office to ensure that the project remains in compliance.

The requirement for reports to be completed ten days following the end of the quarter has placed an incredible burden on post-award offices. The end of each quarter has long been stressful for post-award offices due to financial reporting, but with the arrival of ARRA requirements, not only do the same quarterly financial statements still need to be submitted, but now the additional details required by the Recovery Act must take priority to ensure significant penalties are not imposed on the institution for non-compliance. At large institutions where much of the accounting and tracking of awards is done at the departmental level, the burden of ensuring that ledgers are up-to-date and all transactions are posted in the month they occur has become more important than ever. Reporting done by the central office cannot commence until the institution is able to “close” the month and record the transactions from the department ledgers in the central accounting system as the final step in the tracking process. If transactions are posted late, ARRA reports can be inaccurate. Significant cooperation among post-award administrators, departmental-level administrators, and faculty researchers must happen each quarter to ensure that the institution does not violate the terms of the grant agreement (Federal Bureau of Investigation, 2009).

For research administrators, these policies have meant entering sometimes unfamiliar territory with respect to oversight on federal projects. It is no longer possible for institutions to rely only on accounting offices to complete the required

reporting, as some may have done in the past. The ARRA reporting requirements necessitate substantial cooperation across campuses to maintain compliance. Faculty researchers must be aware of their project budgets and how the transactions are posted to their ledgers. They must be diligent to ensure that the record-keeping process remains accurate and up-to-date. Departmental-level staff must communicate effectively with faculty researchers to accomplish the same goal. Both must pursue open dialogue with the central research office to ensure that no requirement is missed when the quarterly reports are due. It is the responsibility of the research administrators to ensure these requirements are understood and proper training has taken place. Through this necessary cooperation, many research administrators have found that a greater level of understanding has been achieved between offices with traditionally strained relationships. An example from personal experience illustrates how this cooperation has shaped research administration. The situation at many large research institutions is that communication and general understanding between the pre-award and post-award offices is not always smooth. However, with the advent of ARRA, understanding each other's function and goals has become vitally important in order to ensure that nothing is forgotten. ARRA requirements created additional work, but through the necessary collaboration, those requirements have also created an

atmosphere of understanding between different departments.

Collaboration with respect to ARRA reporting requirements is a positive step that should benefit research administrators going forward. Government regulations related to transparency and proper conduct in research continue to increase, and research administrators' involvement with faculty and their research agendas is becoming increasingly important. In addition to ARRA in 2009, other factors have required research administrators to collaborate with faculty in ways that have not traditionally been a part of their job. Requirements for sub-award monitoring in the Federal Funding and Transparency Act of 2006 (Federal Funding and Transparency Act, 2006), and the responsible conduct of research requirements in Section 7009 of the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science (COMPETES) Act of 2007 have dictated that faculty, departments, and central office administrators work together to meet the requirements of the award (National Institute of Standards and Technology, 2007). Instead of having brief conversations at the beginning of the award and checking that all pieces are put together to close out a project, ongoing dialog and monitoring of financial and programmatic requirements throughout the project period have become more commonplace in the world of research administration. The result is more labor-intensive for research administrators, but

produces better research oversight by the institution.

## CONCLUSION

Federal sponsorship of basic research is the product of long-standing government interest in growing scientific capital. At the end of World War II, another historically significant event, the government identified a goal to decrease dependence on foreign sources of scientific capital. As documented in a letter written by Vannevar Bush to President Franklin Roosevelt in 1945, “in the nineteenth century, Yankee mechanical ingenuity, building largely upon the basic discoveries of European scientists, could greatly advance the technical arts. Now the situation is different” (Bush, 1945, p. 26). Building scientific capital by funding basic research in universities throughout the country became a permanent part of federal fiscal policy. The end goal of that funding was to create a stronger America, where ideas could become reality. The work is done by scientists, but the funding is controlled mainly by non-scientists on behalf of taxpayers. Elected officials who make decisions about funding levels for research are influenced by the voters in

their district and in their hometowns. These individuals are in turn influenced by significant events in U.S. society, thus allowing major events to have a significant influence over what is done in laboratories.

September 11<sup>th</sup>, 2001 changed research interests because it changed the nation. The recession has caused the nation to see scientific advancement as a way to help the country regain economic stability. The direction of research administration as a profession is tied to the changes that come from federal sponsors.

**“When events in U.S. society direct federal sponsorship, they also affect the direction of research administration.”**

When events in U.S. society direct federal sponsorship, they also affect the direction of research administration. These case study examples are only two events that have had a significant, measurable impact. Imagine the impact that has not been measured.

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## ENDNOTES

1. i.e., DEAR 952.204-71 Sensitive Foreign Nations Controls; Army Corps of Engineers ER 52.0000—4017 – Foreign Nationals.
  2. ARL 52.005-4401 Release of Information.
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# Adopting the Transformational Leadership Perspective in a Complex Research Environment

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## ABSTRACT

Transformational Leadership is a popular topic among leadership scholars, but for research administrators, Transformational Leadership might seem like an enigmatic approach given its various contexts. Research administrators might think the transformational approach is only for executives, or that they do not have enough staff to call themselves transformational leaders, or that organizational transformations belong at the level of chief executive or the board. Bass (1990) noted that transformational leadership can be taught, learned, and practiced. The following argument supports this statement, promotes Transformational Leadership as an acceptable approach for research administrators, illustrates how different philosophies can be integrated into Transformational Leadership, and provides an illustration of the various ways Transformational Leadership can be applied.

## BACKGROUND

In a world of fad leadership, book-of-the-month, and CEO biographies it seems the Transformational Leadership (TL) model provides an intuitive framework that separates scholarship from anecdotal advice. The compendium of leadership advice is so copious that leaders might resign themselves to claiming that their leadership model is simply to hire

competent people, step aside, and let the rest take care of itself. Leadership scholars know this approach is not active leadership; rather, this behavior is more like the *laissez faire* dimension of the full model of leadership described by Bass (1990, 1999).

Gibbons (1986) researched the developmental process of transformational leaders through a qualitative study of senior management. The leaders were asked to

speak about events and experiences from childhood to where they were then. Through research by Gibbons (1986) and further analysis by Avolio and Gibbons (1988), seven factors evolved: High expectations from parents and urging of children to perform at high levels; grounded family environment; leaders' ability to manage their own disappointments or failures; exposure to a variety of leadership opportunities; strong desire in professional, ethical, and social issues throughout life; contact with other leaders or role models; and the ability to reflect and draw conclusions. Bass (1990) noted that TL could be taught, learned, and practiced.

TL is based on the following three assumptions: subordinates will band together around a person that inspires; leaders with a vision and passion can accomplish amazing things; and the way to accomplish great things is to interject vehemence and encouragement. It is not really leading if one does nothing, but it helps to define one's actions. The literature indicates that transactions, whether psychological or monetary, must take place between the leader and the follower to produce an observable "leadership process" and that the relationship between leader and constituent must be mutually beneficial (Northouse, 2004). It seems a weakness of the model is exactly how to carry out the TL process and what perspectives to use when carrying it out, especially in research administration, which is formed from so many different perspectives.

Research administrator behavior is influenced by the organizational environment and each environment has its own variables (Atkinson & Gilleland, 2007; Atkinson, Gilleland, & Barrett, 2007; Atkinson, Gilleland, & Pearson, 2007). It would be important for a research administrator to know how to apply the TL process to his/her given context. Bass (1990, 1999) also noted that the interests of the organization and its members need to be aligned. The leader is one of the vital members in the organization, and the research administrator as professional is a default leader when it comes to research and grant functions.

More specifically, it has been established that research administrators are professional leaders because they sit at the intersection between academic and administrative organizational behaviors (Atkinson & Gilleland, 2007; Atkinson, Gilleland, & Pearson, 2007). Research administrators must cope with increased amounts of stress (Shambrook, 2011), seek legitimacy through credentialing (Atkinson, 2002; Roberts, 2006), and work in a context in which there seem to be varying degrees of support (Hamilton, 2010). The RA's working environment is composed of shifting contexts governed by a dual hierarchy that is often at odds with the role the research administrator has to play (Atkinson & Gilleland, 2007; Hamilton, 2010). Warden (2011) noted that leaders in these positions assume a "quantum" approach because so many different variables affect the leader's actions and so

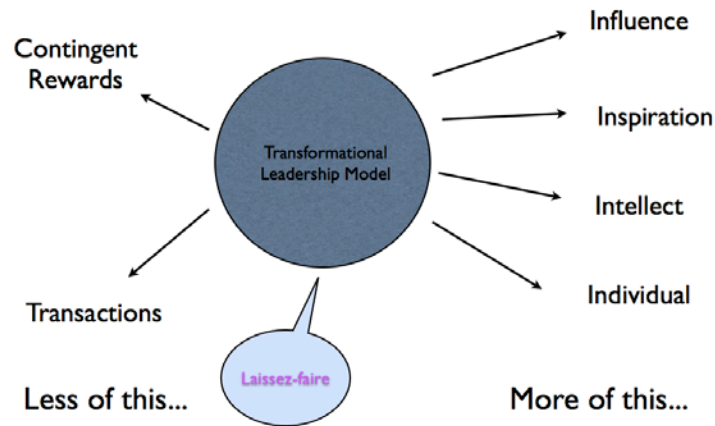
many variables affect the outcome of decisions. She noted, “where there is relationship and sharing of new information, transformational leadership is the method for new energy to do the work” (Warden, 2011, p. 4). Warden’s work echoes concepts such as “fractal leadership” or “new science leadership” by Wheatly (1999) and more recently Harle (2011). Fractal leadership assumes that we do not have all the variables and that in many cases the variables are unknown until seen in retrospect. The research administrator, therefore, is required to be savvy and use leadership skills that promote collaboration, the individual, and the intellect because the information produced by the organization is ever changing and fluid.

**“The research administrator . . . is required to be savvy and use leadership skills that promote collaboration, the individual, and the intellect because information produced by the organization is ever-changing and fluid.”**

The following analysis will focus on the Transformational Leadership model described by Bass and Avolio (1990) and adapted by Northouse (2004). The basic premise is that leaders should move away from transactional and contingent reward type leadership to focus more on the individual (Figure 1). The analysis, therefore, will focus primarily on the 4I’s or Idealized Influence, Individual Consideration, Inspirational Motivation, and Intellectual Stimulation aspects of the model. These dimensions define the TL behaviors and are characterized as follows (Table 1; Figure 1.)

**Table 1. Dimensions of Transformational Leaders (Bass & Avolio, 1990)**

Idealized Influence (II)	Making others feel good, making others proud, earning faith from the subordinate
Inspirational Motivation (IM)	Leader communicates his/her goals, the manipulation of images, helping others find meaning in their work
Intellectual Stimulation (IS)	Leader’s ability to make others think about new ways to perform work, new ways to look at work, ways to be creative in their own problem-solving methods
Individual Consideration (IC)	Individuals develop themselves, leader feedback to subordinates, time taken by the leader to bring workers into the team or group



**Figure 1. Simple Model of Transformational vs. Transactional Leadership based on Bass (1990)**

### **Idealized Influence (II)**

According to Bass (1990), Idealized Influence is the dimension characterized by making others feel good, making others proud to be associated with the leader, and earning faith from the subordinate.

### **Inspirational Motivation (IM)**

Bass (1990) noted that this dimension is characterized by how well the leader communicates his or her goals, the manipulation of images, and helping others find meaning in their work.

### **Intellectual Stimulation (IS)**

Bass (1990) noted that this dimension is characterized by the leader's ability to make others think about new ways of performing work, new ways of looking at work, and to be creative in their own problem-solving methods.

### **Individual Consideration (IC)**

Bass (1990) noted that this dimension is characterized by how well the leader

encourages individuals to develop themselves, how much feedback the leader thinks he or she gives to subordinates, and how well the leader takes the time to bring workers into the team or the group.

**“The transformational leader focuses on the individual through multiple means and methods. The result is a subordinate or follower or colleague who does work out of feeling important and connected to the leader and the organization.”**

The transformational leader focuses on the individual through multiple means and methods. The result is a subordinate or follower or colleague who does work out of feeling important and connected to the

leader and the organization. For purposes of this analysis, from this point forward, followers will be referred to as constituents in order to move further away from the “people are machines” model as well as the “people are entirely dependent on the leader” model (Warden, 2011).

With TL, the constituent feels involved with and finds meaning in the work, because the leader interacts with them rather than hiring them only to “let them

be” as in laissez-faire leadership or to “get the job done or lose my job” as in Transactional Leadership (Bass, 1990).

Northouse (2004) noted that the strengths of the TL model are that it allows for multiple perspectives, it is intuitive, and it is process-based (Table 2). Another strength is that the process seems intuitive to the leader because of the focus on the follower’s needs.

**Table 2. Strengths and Weaknesses of Transformational Leadership (Northouse, 2004)**

Strengths	Weaknesses
Multi-perspective	Validity not fully tested
Intuitive	State or trait
Process-based	Elitist
Augments other models	Very “I”- and “me”-based
Followers’ needs	Different contexts
Effective	More study needed

Some of the weaknesses noted by Northouse (2004) were that the validity of the tool used to measure Transformational Leadership, the Multifactor Leadership Questionnaire (MLQ) (Avolio, Bass, & Jung, 1999), was not fully established; there is still some debate about whether the transformational leader possesses these traits at birth, gains them through the environment, or finds them through specialized training and experiences. The MLQ itself can seem very “I” - and “Me” - based because of the way the questions are worded; at the same time, the MLQ does not account for the many different contexts

in which leaders work. Many organizational factors affect the effectiveness of the leader.

### **PROPOSED WAYS OF ENACTING TRANSFORMATIONAL LEADERSHIP**

The following argument is not an attempt to discover the universal means to achieve a Transformational Leadership style; rather, it an illustration of the multiple possibilities for aligning other models and skills within TL. These models are familiar to most people and may be used to enhance the TL process and perhaps make it more useful for leaders like research administrators. At the conclusion of the analysis, it should be clear that a

transformational leader must almost always shift perspectives and must use all the tools available to achieve transformations among his/her colleagues and followers while reducing the less effective transactional and “hands off” leadership styles. The examples, then, are only scratching the surface of the potential of opening the backbone of TL to other philosophies.

Because the TL model is so flexible and allows for multiple perspectives, perhaps the model would allow for the integration of other knowledge and literatures in the field of organizations, leadership, and philosophy. For instance, the mentoring model seems to fit very well within the TL dimension of Idealized Influence where the leader makes others feel proud and emphasizes the formation of mutual trust. The subordinate wants to follow the leader out of faith, which seems to follow the philosophies proposed by Bertrand (2004) or a leadership perspective proposed by Warden (2010). If examined carefully, one might find that the linguistic strategies proposed by Brown and Levinson (1987) might also inform TL’s Idealized influence in that their strategy allows individuals to “save face” in daily interactions with people with or without power.

In addition, Attribution Theory (AT) (Weiner, 2010) is a way into understanding how others are motivated in various organizational contexts. Both would seem to inform “Inspirational Motivation” in TL. Likewise, semiotics (Chandler, 2007; Danesi, 2007; van Leewen, 2005) provides an

interesting perspective on the function of symbols in society.

As for TL’s Intellectual Stimulation dimension, in which subordinates and colleagues are challenged to see things in a different light, and are challenged to find creative ways of finishing work, etc., perhaps research administrators should look at the work done in the creativity literature, specifically Estes and Ward (2002), who described how creative people continue to find new ways to look at their creative work and how to access new creative endeavors. The perspective matches assertions made by Burn (2011), who noted that artists bring skills to the leadership process that have usually been ignored.

TL’s Individual Consideration dimension seems to encapsulate the entire theory because it involves the leader bringing the individual in to the organization and communicating feedback. The dimension seems to also be informed by mentoring strategies, linguistic strategies, and perhaps attribution theory.

## **MENTORING INFORMS INDIVIDUAL CONSIDERATION (IC)**

Individual Consideration (IC) is part of the TL model. Individual Consideration shares some aspects of the mentoring concept. Therefore, it seems a mentoring approach can inform Transformational Leadership. The research administrator is familiar with the mentoring concept. IC deals with a focus that expands the individual’s development, providing

feedback between parties and making the individual feel included in the work. Mentoring is a good framework for this dimension because of the focus on trust. *Webster's Dictionary* defines a mentor as "A trusted counselor or guide". Using this strategy, it seems that a leader would be engaging in Transformational Leadership at the individual consideration level.

When the leader acts as mentor, he or she has to focus on consistency and trust in the relationship. The leader makes a conscious decision to move away from that which tends to create a toxic leadership style (Goldman, 2009, in Warden, 2011). A counselor also provides advice, so the Transformational Leader might find themselves in a passive mode but still leading. This is not necessarily Laissez-Faire Leadership either. The leader is not omniscient and cannot know all. But by resisting the urge to speak and lead, by settling down to listen to the environment, a leader can build trust that can help empower the relationship between the leader and the constituent, and as the trust builds, constituents emerge. People will come to the leader for advice because of his or her experience and position and, finally, trust. In order to do this effectively, it is suggested that the transformational leader might recognize and take the stance that the mentor and protege relationship begins at the intersection of two lives.

Consider Figure 2. The leader and the protege begin their lives at different stages

and the relationship begins somewhere in the future. In the realm of unshared experiences the leader and follower make connections and find commonalities. As the relationship builds, each party learns something new about the other, moving the relationship beyond organizational position, face, and stature. The relationship is more personal. After all, according to Bass (1990, 1999), personal attention, faith, and pride of association are key components of IC.

The transformational leader should not use the mentoring tool to seek total psychological control—some have suggested TL might cause leaders to do this (Northouse, 2004), but leaders should use the tool to build mutual respect. Influence over the individual, it seems at this stage, would become easier because of the trust built between the two parties. If trust exists, the ethical transformational leader should not take advantage of the relationship for selfish means. Truly, human behavior is inconsistent and unpredictable; one would hope that the ethical leader would not choose a manipulative approach.

It is clear, however, that mentoring is a powerful tool for engaging in Transformational Leadership through Individual Consideration. It is not being suggested here that the leader should drop professionalism and "make friends" with his/her subordinates. In many cases it will still be necessary to maintain a professional distance in the relationship.

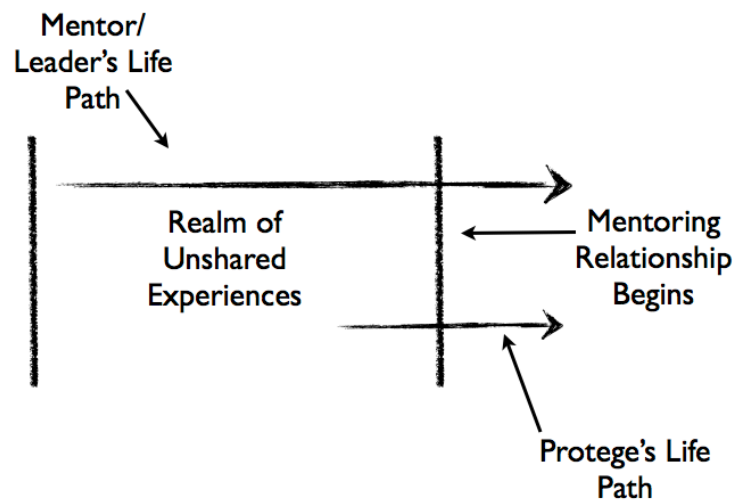


Figure 2. One Model of the Mentoring Relationship

Within the realm of unshared experiences, how would the transformational leader go about sharing these experiences and which ones are appropriate? Bertrand (2004) noted that each individual has a view of him/herself as a “universal me” that contains many of the elements of human nature that can be shared, or can be used for learning and teaching (Figure 3; Table 3). Bertrand (2004) noted that all individuals possess habits that can be both annoying or endearing; each individual deals with imperfections and tries to hide them; almost all humans want to know their destiny, where they will end up in life, how they will die. Humans crave meaning. But at the same time, people must deal with other “Fake People” or people pretending to be something else, or

trying to trick and manipulate each other via insincere means. Trickery and manipulation are all around us and a basic fact of life, but the TL transcends this behavior through trust.

The perspective aligns with Warden (2011), who suggested that if leaders want to orient themselves for change, it would be necessary to adopt the perspectives of “natality” and “mortality salience” where natality encourages the leader to think of new ideas and mortality salience encourages the leader to remember, echoing Bertrand (2004), that all humans face the same final destiny. Built into mortality salience, noted Warden (2011), is also an impulse to resist the fear of death while recognizing the fate.



Figure 3. Bertrand's (2004) Elements of Shared Experience

Table 3. Proposed Ways to Integrate Other Theories with the Transformational Leadership Process

Transformational Leadership Dimensions	Models Considered
Idealized Influence (II)	Mentoring (Bertrand, 1978, 2004, etc.) Linguistic Strategies (Brown & Levinson, 1987)
Inspirational Motivation (IM)	Social Semiotics (Chandler, 2007; Danesi, 2007; van Leeuwen, 2008, etc.) Attribution Theory (Weiner, 2010; etc.)
Intellectual Stimulation (IS)	Creativity Research (Estes & Ward, 2002)
Individual Consideration (IC)	Mentoring Linguistic Strategies (Brown & Levinson, 1987)

Many of these elements cross cultures, too. Some cultures emphasize some of these elements over others, but in the end people share many of the same problems, challenges, hopes, and dreams. When seen in this light, Transformational Leadership

takes on a new meaning, and it becomes clear that the transformational leader's influence can be expanded in a very powerful and meaningful way.

## IDEALIZED INFLUENCE (II) INVOLVES POLITENESS

Idealized Influence is part of Transformational Leadership. Elements of Idealized Influence are also part of Politeness Theory. Therefore, Politeness Theory can inform Transformational Leadership. Idealized Influence is marked by making others feel good, making others proud, and earning faith from the subordinate. The leader must do this through interaction that will involve some form of communication, either verbal or nonverbal.

Politeness Theory (Brown & Levinson, 1987) is a communication theory that involves the interactions of people, but emphasizes the issues of building community and finding common ground. Politeness Theory is what happens when people consider the thoughts and feelings and respect for others to ultimately get along with each other. Erbert and Floyd (2004) noted that, "A fundamental assumption of politeness theory is that all individuals have and are concerned with maintaining, *face*" (p. 255). A strong definition of "face" was provided by Goffman (1959, 1967) in Erbert and Floyd (2004): "Face is a person's desired public image" (p. 255). Brown and Levinson (1987) broke the concept of face into two dimensions: negative and positive. Positive face creates the feeling of community and agreement, while negative face is an outward expression of respect for a person's

autonomy and the desire to work without "interference" (Brown & Levinson, 1987). It is important to note that "negative" face is not negative in the sense of causing harm. It is an approach to handling potentially negative situations in which individuals could experience threats to their image. The concept of "face", then, can be used by the transformational leader to find common ground with proteges, colleagues, and subordinates—a vital skill for the research administrator.

The transformational leader might carry this out in practice by making sure to avoid criticism that would violate commonality (Figure 4). Brown and Levinson (1987) listed multiple cross-cultural strategies for building positive face. They recommended using humor and phrases that the protege can relate to in order to save face. Instead of emphasizing a mistake, one strategy for the transformational leader would be to find common ground by saying, "It happens to people when they first get into the business." If the impact of the mistake on the organization is obvious, then the transformational leader need not belabor the point. But by focusing on making the individual feel better by finding common ground, the leader activates two components of the Transformational Leadership model: Idealized Influence and Individual Consideration, as discussed in the last section.

Avoid Criticism  
that would  
violate  
commonality.

Use humor

-I did that when I was starting out.

**Positive Face: Show Commonality**

-Don't you hate it when that happens.

-It happens to the best of us

**Figure 4. Positive Face Illustrated for the Sake of Idealized Influence of the TL Model**

In essence, Politeness Theory highlights the overlap in the TL model but also becomes a vital tool for the transformational leader's toolbox. Again, the leader's intentions should be grounded in a "do no harm" ethical stance when garnering influence in this manner. It is easy to see how TL can be highly manipulative if not careful.

Negative face seems to coincide with an ethical stance, because the strategies discourage TL from assuming and presuming anything (Figure 5). It requires the transformational leader to make an effort to gather facts. Negative face requires respecting autonomy and avoiding coercion, both of which are often emphasized as a basic human rights. Research administrators are familiar with these concepts as well. Brown and Levinson (1987) provided several strategies for pointing out problems to subordinates

without necessarily violating their autonomy. They recommended "going off record" or giving the benefit of the doubt. For instance, rather than acting mad and frustrated if a report is late, the alternative TL strategy might be to say, "I know it was a busy week last week" or "I know I pushed a lot of fires your way last week, but these reports are important because they let the president know how well the institution is doing." The strategy allows assertion of the importance of submitting reports on time, but does not emphasize the mistake to the point of isolating the constituent. If someone violates a policy, rather than pursuing the perpetrator like a criminal, the TL strategy might be to provide the policies, emphasize why the policies were established, and describe the big picture impact of violating the policies. The approach provides an avenue for maintaining commonality and avoiding

rifts. The strategy also seems to build respect because the transformational leader appears assertive rather than passive. The leader is not avoiding punishment, but using the event as an opportunity to train, teach, and improve the performance of the individual. That is active leadership. A laissez-faire approach toward policy violations or mistakes might lead to more disaster, so the transformational leader's strategy of saving face respects autonomy, allows for development of the individual, and opens the door for building the professional relationship.

**"If someone violates a policy, instead of pursuing the perpetrator like a criminal, the TL strategy might be to provide the policies, emphasize why the policies were established and describe the big picture impact of violating the policies . . . the TL leader is using the event as an opportunity to train, teach, and improve the performance of the individual."**

Don't assume/  
presume

Off Record: It  
must have been  
a busy week last  
week.

I encourage  
you to attend  
some  
training.

Don't coerce

Negative Face: Respect Autonomy

Your policy review  
"needs a bit more  
work" (Not a  
whole lot)

Here are some  
policies that address  
important areas of  
outreach.

Figure 5. Negative Face Illustrated for the Sake of Idealized Influence of the TL Model

At this point it should be obvious how closely Idealized Influence (II) and Individual Consideration (IC) are interconnected. Both strategies, saving face and assuming a mentoring posture, are probably good strategies to use as a transformational leader, but not the only strategies. It would be important for the leader-scholar to explore more strategies to build his/her leadership perspective. The transformational leader would see the model in Figure 6 as fluid and perhaps add more arrows as he/she accounts for context, preference, and study.

As the analysis proceeds, more overlap among the factors should be obvious, specifically when it comes to Inspirational Motivation (IM) and Intellectual Stimulation (IS). The concepts were presented in this order on purpose because it seems that in order for the transformational leader to get to the IM and IS dimensions, he/she must have first established a rapport with the protege, subordinate, or colleague.

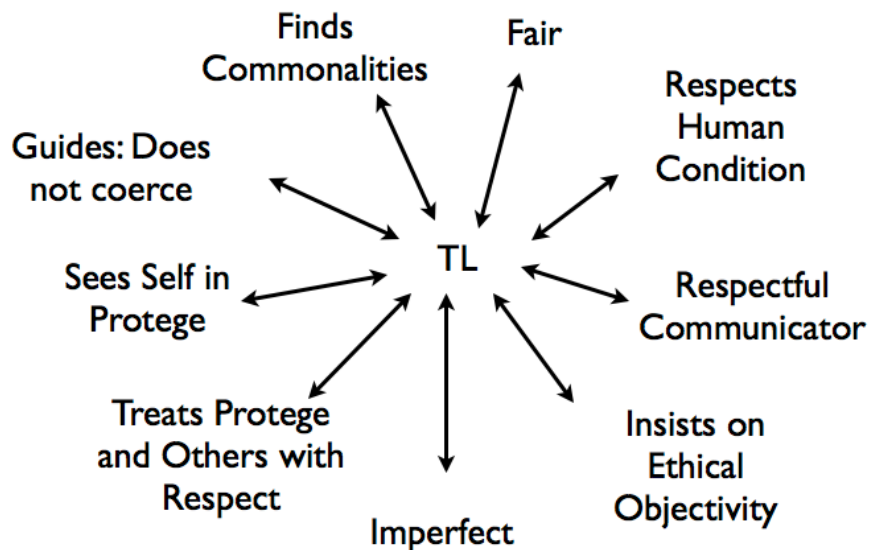


Figure 6. One Illustration of the Transformational Leader using Both Idealized Influence and Individual Consideration

**INFORMING INSPIRATIONAL MOTIVATION (IM)**

IM is part of TL. IM shares elements with semiotics and Attribution Theory.

These perspectives, then, can inform the TL perspective in the IM dimension. These are not the only philosophies or perspectives that can inform this dimension. The leader-

scholar should use them to see the possibilities. It could be said that the core of IM is to for the transformational leader to manipulate words and symbols in a way that motivates people to act around a shared sense of duty. It sounds intentional. But the truth is that leaders use symbols and words, both intentionally and unintentionally, to manipulate the thoughts and feelings of others (Danesi, 2007; van Leewen, 2005). The fact is well-established. The literature on this topic is expansive, but it might help the transformational leader to look to various works in semiotics to find some strategies for motivating and inspiring people.

To demonstrate how symbols and signs affect behavior and motivation, a “sign inventory” was created following in the tradition of semiotic inquiry (van Leewen, 2005). Creating sign inventories is one of the methods sign scholars use to examine communication in life (Danesi, 2007; van Leewen, 2005). Following van Leewen (2005) and many others, for this analysis a

sign was defined as “what we see and hear plus what we think about what was seen and heard”. Using YouTube, an inventory of videos was created that depicted various pre-game rituals found among sports teams (Table 4). Sports was chosen for this demonstration because rituals are often used as a “motivating” factor and emotions run high. In the following inventory, some of the sports represented were American football, soccer, and rugby. The dominant theme among these rituals was that the team expressed an increased sense of excitement as the ritual was performed. For rugby and American football, the fans could be heard screaming and yelling their excitement in response to the ritual, which added another dimension to the effect signs and symbols have on individuals. Some common semiotic themes were rhythmic motion and chanting, hopping, and screaming fans. Watching the rituals was typically inspiring and it seemed motivating for the team.

**Table 4. Semiotic Inventory of Pre-game Rituals in Sports**

Sport Depicted	Ritual	Observations	Fans
Baseball	Rhythmic chant that featured swaying with interlaced arms	Teams' heightened sense of camaraderie	No visible fans; some off-camera clapping
Professional Rugby	Haka or war dance.; rhythmic motions with arms, legs, and body	Players' faces were fierce, seemed angry, focused; carried out the ritual with purpose	Stadium was full of fans who screamed their approval, and the noise level rose with each phase of the ritual
American Football	New Orleans Saints pre-game chant; rhythmic, compelling.	Players' heightened sense of camaraderie	No visible fans; some off-camera clapping
Soccer	Rhythmic chant that featured hopping	Team's heightened sense of camaraderie	No visible fans; some off-camera clapping but several side observers seemed moved by the display
American Football	College football team performing its own Haka; rhythmic motions with arms, legs, and body	Players' faces were fierce, seemed angry, focused; carried out the ritual with purpose	Fans screamed their approval and the noise level rose with each phase of the ritual
Soccer	Rhythmic chant that featured hopping	Teams heightened sense of camaraderie	No visible fans; some off-camera clapping, but several observers seemed moved by the display

Source: YouTube

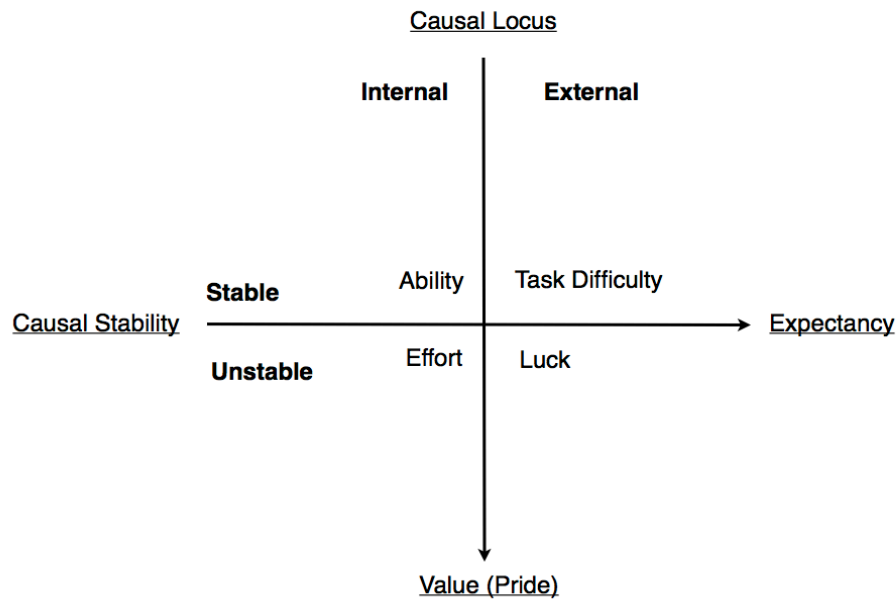
With the IM component of TL, however, the rituals, words, and actions in day-to-day activity may be a little more subtle. The opportunity for TL to use symbols and signs might be in the mission statement, logos, or speeches of the organization. Words are signs and symbols (Danesi, 2007) and so are texts (Chandler, 2007). Departmental meetings are a good time to review the mission statement for the department and the university (texts) and examine how symbols and words align with existing organizational actions and behaviors. Scholars often examine whether mission statements are causative or simple acts of representation that reveal some

cognitive or shared experience (Atkinson, 2008). In some situations, the mission statement backs up other asserted statements. Mission statements (text symbols) can take the form of policy in some situations simply by stating "What we are doing here aligns with the mission of the University and the Strategic Plan." The statement may not be inspirational, but it can be motivating and make people think about the core values of the institution. But talk alone may not get the transformational leader where he or she needs to be when it comes to inspiring and motivating others. Often the problem with motivation lies

within the individual's own set of beliefs and values.

Attribution Theory seems to address many aspects of internal motivation. The Attribution Theory Model explained by Weiner (2010) provides very compelling

insights and tools for a transformational leader as expert motivator. Weiner's (2010) explanation is extensive and involves a long history of research that is not covered here, but he provides a simple model that explains the theory in summary (Figure 7).



**Figure 7. Weiner's (2010, p. 32) Description of Attribution Theory**

Weiner noted that people evaluate their success and failures on some very basic observations about the world around them. As Weick (1995) noted, people are sensemakers in an organization and often develop their own theories about why things happen the way they do, why things happen to them, and what control they have over it or not. Basically, Weiner (2010) said that when things happen to people in organizations, they may attribute these causes to either problems they cause

themselves or problems caused by other people or factors. Within the problems that they cause, people will attribute their success and failure to their own innate abilities, such as talent or skill, or they will attribute success or failure to how much effort they actually put into the project. If people do not blame themselves, they will say it was because of something else, such as how difficult the task was for them or attribute it to just plain luck. Ability is a factor that changes slowly over time, and

depending on the difficulty of the task, is variable among individuals. If an individual realizes that they have given sub-standard effort to the project, the transformational leader might be able to pinpoint ways to encourage them to do better – perhaps by using techniques mentioned under Idealized Influence. If people are blaming the difficulty of the task, it might be necessary for the leader to assign a different team or encourage people to think more creatively. Truly, luck plays a factor, too, but luck is something that is obviously out of the leader’s locus of control.

If the task seems difficult, and the transformational leader needs to encourage creativity, this could be a problem. The leader probably has some control over task difficulty, but not much. Much of it truly depends on how much people believe in their own innate abilities. As in research administration, the external factors such as rules and regulations are quite stable over time and controlled by factors outside of the leader’s control. Conditions like these call

for the ability to think about things in different ways.

### **INFORMING INTELLECTUAL STIMULATION (IS)**

IS is part of TL. It shares elements with Creativity Research. Therefore, Creativity Research can inform TL. If the transformational leader finds a situation that seems uncontrollable and is affecting colleague performance, it would help to get people to think about things in different ways. Some answers may lie in work done by Estes and Ward (2002), who noted that creative people are able to modify concepts and create new ways of looking at things in a process called “emergence”.

Emergence arises from “concept combination”, which quite simply involves taking two unrelated concepts and combining them in a way that creates new meaning (Figure 8).

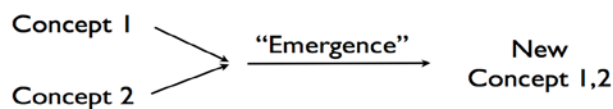


Figure 8. Concept Combination and Emergence in Creativity

In addition, two other factors are involved in enhancing emergence during concept combination: relevance and typicality (Estes & Ward, 2002). Each concept has various dimensions that are relevant and typical to that dimension, but in concept combination, dimensions that are *not* typical tend to generate emergence. Research administrators run into this problem all the time. On the fly, non-typical events seem to catch unexpectedly and they are required to create a new way of thinking about things. To illustrate how relevance and typicality work in this situation, Estes and Ward (2002) provided this illustration:

“...a relevant dimension of the concept shark is its temperament, and a typical feature on that dimension is aggressive, whereas an atypical feature is harmless. An example of an irrelevant dimension of shark is its color, because color is not ordinarily important when considering a shark. The colors gray and black are typical and atypical, respectively, of sharks” (Estes & Ward, 2002, p. 150).

It is interesting to note that idea generation does not work for every combination. It requires some thought and some work, but the technique can be learned. For instance, Estes and Ward (2002) used the example, “cloudy enemy”, which seemed irrelevant as a new concept based on various inter-rater reliability tests. The phrase simply does not work very well.

To emphasize the details of how a transformational leader might apply these concepts in practice, it helps to examine the

Estes and Ward (2002) creativity study to a greater extent. Estes and Ward recruited 221 students from a psychology course and found that when the participants applied non-typical features to concepts, emergence increased at a statistically significant rate, but at the same time “extreme irrelevance” created the greatest emergence (Estes & Ward, 2002, p. 153).

Though Estes and Ward’s (2002) research primarily deals with linguistic concepts, they go on to say that “concept combination” is involved in general forms of idea generation, problem-solving, and insight, and has “potential applications for science, art and business” (p. 149).

A transformational leader could do this in practice by encouraging regular brainstorming sessions to cause different team members to think about mundane practices in a new light. It would be a good time to ask what is typical about the routines performed in the office, ask questions such as “why do we do it this way” or “are there more relevant or creative ways to get the job done more efficiently?” It would not matter if the problems were solved; it would simply matter that the transformational leader moved people toward thinking about things in a new way that is a hallmark dimension of the Transformational Leadership perspective or process. Encouraging the practice of creativity, it seems, would eventually aid more solutions to problems in the long run. Also, the research in this field seems to verify many of the ideas that research administrators use to solve problems

anyway, so the results are intuitive and reassuring that research administrators can be transformational leaders in their practice.

**“... ask questions such as ‘why do we do it this way’ or ‘are there more relevant or creative ways to get the job done more efficiently?’ ... Encouraging the practice of creativity, it seems, would eventually aid more solutions to problems in the long run.”**

The perspective seems to work well because other scholars have emphasized that leaders seem to be “improvising” and are really simply very good at creating the myth of control (Jones, 2011; Mohr, 2011). To highlight the overlap among perspectives, Mohr (2011) noted that the principles of “improvisational” leadership involve trust, being present, engaging in dialog, recognition that constituents and leaders are co-creators, and finally openness (Mohr, 2011, pp. 57–60), while Jones (2011) asserted that creativity only springs forth when we release our thought processes from some toxic myths such as the myth of loneliness or the myth that total control will bring about bureaucratic efficiency or that scarce resources will perpetuate politics (Jones, 2011, p. 70). All of these perspectives echo concepts found in Individual Consideration, Inspirational Motivation, and Idealized Influence.

## CONCLUSION

The previous exercise analyzed the core components of Transformational Leadership Theory: Idealized Influence, Individual Consideration, Intellectual Stimulation, and Inspirational Motivation. Next, the exercise integrated ideas from other literatures and synthesized new ways of looking at each component. For instance, it is clear that Idealized Influence and Individual Consideration can be informed by bringing in mentoring techniques in which the leader focuses on the individual’s development. It is also clear that Inspirational Motivation could be enhanced by studying how signs are manipulated and used in the organization as well as using Attribution Theory to gain a general understanding of how people perceive control over successes and failures. Intellectual Stimulation can be informed by creativity research to encourage people to think about the typical and atypical aspects of problems and concepts. Finally, Individual Consideration seems to be the doorway to the other three areas: encouraging individual development, bringing others into the group through mentoring, and general principles of politeness theory.

A quick examination of Table 5 illustrates the potential overlap in all four areas. The techniques the transformational leader uses could easily cross over into other areas. Additionally, this analysis is limited to the five dimensions in Table 5. It is quite certain that other literatures could be brought in. As for leadership

development, it seems a transformational leader could follow the literature in creativity, theatre, and art, and create new associations that can enhance the TL perspective. Perhaps a new study could be designed that would incorporate testing of these new techniques to determine their effectiveness. In all, TL appears to be accessible and a leadership style that can be easily applied in various contexts. It is hoped that research administrators find

ways to use the techniques to enhance their own style and discover new techniques that encourage them to be transformational. At the same time, research administrators may be satisfied to find that their existing techniques have some backing in various academic disciplines and literatures and that they have been practicing Transformational Leadership all along.

**Table 5. Summary of Integration of Ideas into the Transformational Leadership Framework**

Bass's (1990) TL Dimensions	Mentoring	Linguistic Strategies	Study of Signs or Semiotics	Creativity	Attribution Theory
<b>Idealized Influence</b>					
Make others feel good	X	X			
Make others proud	X	X			
Earn faith from subordinates	X	X		O	O
<b>Inspirational Motivation</b>					
Communicate goals	O	O	X		X
Manipulate images			X	O	X
Help others find meaning	O	O	X	O	X
<b>Intellectual Stimulation</b>					
Think about things in new ways	O		O	X	
New ways of looking at work	O			X	
Creative problem-solving	O	O		X	
<b>Individual Consideration</b>					
Encourage individual development	X	X		O	O
Regular leader feedback	X	X			O
Bring others into the group	X	X			O

*The X's represent the ideas discussed in this paper. The O's indicate potential or logical overlap, but were not specifically discussed in the analysis.*

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# More Paper out the Door: Ten Inexpensive Ways to Stimulate Proposal Development

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## ABSTRACT

Conventional wisdom says that the way to win more awards is to get researchers writing more proposals. Yet many incentives designed to stimulate proposal development can be hard on the bottom line, especially those that pay researchers for their time or to attend grant-writing workshops presented by outside consulting firms. This paper presents ten inexpensive strategies the research office can use to stimulate researchers to write more and better proposals. Most of these techniques require little more than efficient use of existing institutional resources.

## INTRODUCTION

In classic management theory, some functions are “line,” which means they relate directly to the goods or services produced by the organization, while others are “staff,” meaning they exist primarily or exclusively to support the line functions. In a university, teaching and research are line functions. Research administration, like human resources, has traditionally been a staff function. Our typical role has been to support, facilitate, and enable our

institutions’ researchers in their efforts to find money for their scholarly work. Krauser (2003) described our ideal role as that of an institutional servant-leader. In the overall flow of events, however, much of our work has been downstream, as most pre-award specialists first engage researchers at the point when a grant proposal is nearly ready to be submitted to a sponsor. If the proposal turns out to be successful (and a declining percentage of them are), then our post-award staff swing

into action. For research administration to lead in an increasingly competitive environment, a good case can be made that we need to focus more of our energies upstream, where researchers may or may not be thinking of writing a proposal in the first place.

**“For research administration to lead in an increasingly competitive environment, a good case can be made that we need to focus more of our energies upstream, where researchers may or may not be thinking of writing a proposal in the first place.”**

### A FIELD IN TRANSITION

In recent years, research administration has been transitioning to a mixed “line/staff” model, where newly hired proposal development specialists have been actively engaged in a variety of initiatives designed to get more researchers writing

more and better proposals. As evidence of this national trend, one need only cite the creation and rapid growth of the National Organization of Research Development Professionals (NORDP). Now in its third year, NORDP currently lists 271 members from 154 institutions, and has become an effective national forum for the exchange of best practices related to research development (Falk-Krzesinski, 2011; NORDP, 2011). A quick survey of topics presented at annual meetings of NCURA and SRA shows an increasing emphasis on research development, from the practical skills of grant writing to the subtleties of forming and facilitating new interdisciplinary research teams.

### TEN STRATEGIES

Here are ten ways to get more winning proposals coming in the pre-award door. Accompanying the rationale for each strategy, there are practical tips for implementing and managing the endeavor.

**Table 1. Ten Strategies to Stimulate Proposal Development**

- |  |                             |
|--|-----------------------------|
| 1. Home-grown Workshops                | 6. Mentor Matchmaking       |
| 2. Visits by Grant Program Officers    | 7. Research Forums          |
| 3. Awards Newsletters                  | 8. Online Tutorials         |
| 4. Collections of Successful Proposals | 9. Getting on Review Panels |
| 5. Departmental Retreats               | 10. Coaching and Editing    |

### **1. Home-grown Workshops**

Grant writing, like any skill set, can be intimidating to those who lack confidence in their ability to produce a quality product. Because it is intensely competitive with a greater chance of losing than winning, researchers are faced with the prospect of investing their precious time to no avail. Workshops can go a long way to reduce or eliminate such disincentives. Recognizing this, many institutions send researchers to grant-writing institutes or bring consultants on campus to provide the training. Either approach can be inordinately expensive with questionable returns, as many such programs are typically targeted to broad audiences such as public school educators and nonprofit organizations, and not to the specialized needs of academic researchers. Home-grown workshops, taught by any combination of research office personnel and grant-savvy faculty, are more likely to yield positive returns at a much lower cost. Beginning workshops on basic grant-writing skills should be offered on a regular basis, supplemented periodically by those focusing on specific funding agencies. Especially popular are presentations by successful grant writers and copies of winning proposals (Porter, 2004).

### **2. Visits by Grant Program Officers**

Researchers are stimulated by updates from grant program officers (POs) at major federal agencies, many of whom are encouraged to present information at professional meetings and to make campus visits. While they sometimes balk at

traveling to a single institution, it is a different matter entirely if you can invite them to a multi-institutional gathering. Contact research administrators at nearby institutions. Raise the prospect of co-sponsoring a grants conference and offer to be the host institution. With just a few positive responses, you can present POs with the prospect of presenting to a regional grants conference. Your success rate will be higher if you address your first inquiry to high-ranking administrators at the agency. They typically pass along your invitation to designees who now have a stronger incentive to accept, and these are the people you wanted anyway. You will get much more out of their visit if you plan for double-duty: Start with morning presentations to the assembled group, then arrange afternoon meetings with individual researchers. To be scheduled for a private meeting, investigators must first send you concise abstracts of their proposed research, which are then forwarded to the POs prior to their arrival. Even when the proposed project falls outside the POs' program expertise, it is surprising how often they can offer constructive advice. And here is the good news for your budget: By federal rule, they cannot accept honoraria and the government must pay their travel expenses. (An exception is a working lunch, for which high-ranking administrators at your institution might be willing to pay.)

### **3. Awards Newsletters**

Despite the ever-increasing emphasis on interdisciplinary research, many

investigators operate within self-imposed silos of their own departments and laboratories (Rhoten, 2004). Frequent communications about your institution's overall funding activity can do a great deal to force cracks in these walls. Try sending a periodic hard-copy newsletter to all faculty and administrators listing recent awards by principal investigator, sponsor agency and total amount. Readers will quickly see that most large awards are interdisciplinary.

Group the listings by department and/or college. Once a quarter, compile the awards data into bar graphs showing key trends, e.g., number of proposals submitted, total awards, comparisons with last year, etc. Each year, publish the "top ten" awards (or whatever number best reflects your institutional size). The impact of this simple tool can be surprising, and the benefits are many: (a) writers of winning proposals are recognized and celebrated, regardless of the size of their awards; (b) investigators learn about successful principal investigators (PIs) who might become future collaborators; (c) investigators learn about funding sources they were not aware of before; (d) administrators can see how their departments and colleges compare with others, and how they are trending; (e) the whole institution gains a heightened sense of its current research portfolio; and finally, (f) the research office is credited with compiling and disseminating the data.

The University of Tennessee has posted a variety of newsletter formats on its [research office web site](#). A word of caution: You can expect researchers and

administrators (especially those with low numbers) to scrutinize this list and raise questions about how the data are compiled and reported. This is not necessarily a bad thing, as long as you can justify your procedures and apply them consistently. And be forewarned: Any change in your data-reporting method data will only result in a new list of detractors!

#### **4. Collections of Successful Proposals**

Reading successful grant proposals has a powerful influence on beginning writers (Friedland & Folt, 2009; Henson, 2004; Porter, 2004). Not only do they pick up valuable lessons on writing style; they also learn about possible new funding sources and how to mold their proposal to fit a particular grant program. Finally, they identify colleagues who can be a font of useful information about how to interact with sponsors and with specific program officers. Most grant winners like to share their successes, and reading their winning proposals can be an effective way for a newcomer to start a mentoring relationship. To post a sample collection online, start by forming a committee of experienced senior researchers representing a range of disciplines. Distribute a list of recent awards to your institution and ask the committee to select a diverse sampling of research themes and funding agencies. As a professional courtesy, request permission from the selected PIs to post their proposals on a secure web site, accessible only to researchers in your institution. A few PIs may perceive this as encouraging future competition, but most will be glad to

accommodate. Be sure to promote the availability of the collection and keep it updated.

The research office web site at the University of Tennessee features a [Grantseekers Tool Kit](#), a collection of helpful materials that includes successful proposals from a variety of sources.

What if your store of institutional proposals is limited? Copies of [winning proposals in many disciplines](#) can be purchased from The Grant Center at reasonable rates. The National Institute of Allergy and Infectious Diseases has posted [four recent R01 proposals](#) with reviewers' comments using the new NIH per review scoring system. A [well-written NSF proposal is also available](#). Finally, successful proposals can be obtained directly from federal agencies under the Freedom of Information Act with a simple request, but be prepared to wait four to six weeks for the documents to arrive, with sensitive information redacted, such as investigator salaries and intellectual property.

### 5. Departmental Retreats

Department heads at research institutions are always eager to expand their portfolios of sponsored projects, and annual retreats provide excellent opportunities for grants specialists to provide useful information, including updates on funding opportunities, data on proposal award activity, and a review of the support services offered by the research office. To get on the agenda, let department heads know about recent grants conferences you have attended, such as those sponsored by

NSF and NIH, and offer to present relevant updates at their retreats. Even if you have not attended a recent conference, these agencies often post slides of key conference presentations on their web sites; you can pick and choose which ones would be of most interest to any given audience. Before the retreat, search funding databases such as COS, InfoEd SPIN, and the Foundation Directory Online for grants targeted to the discipline at hand. Select a dozen or so synopses of programs that appear most promising and distribute copies at the retreat. You will be surprised to see how many faculty are unaware of programs from major agencies that are repeated on an annual basis.

### 6. Mentor Matchmaking

Young investigators can find themselves in a lonely "sink or swim" environment when it comes to sponsored research, and many are hesitant to approach experienced grant writers on their own. Unfortunately, institutions that provide structured mentoring systems are more the exception than the rule—an odd irony, since senior researchers, especially those in academic settings, are usually willing to share their wisdom if the circumstances are right. So what are the "right circumstances" for low cost mentoring? First and foremost, recognize that busy senior researchers are jealous guardians of their time. To be effective as a matchmaker, the grants specialist must be both coach and cheerleader. Start by working with the new investigator to clarify promising research ideas and possible funding sources. The

next step is to identify which senior researcher(s) could be a helpful resource. Then contact the senior person and ask for a brief meeting. Escort the junior person to the session to facilitate the dialogue and keep the meeting focused on key questions: Does the research idea appear to be fundable? Which specific grant program in the sponsor agency should be targeted? Does the senior person have personal contacts in that office? Does s/he have any suggestions for developing a strong research design? Would s/he be willing to look at a one- or two-page project overview? After the session, prod the junior person to send immediately a well-written thank-you, with the brief project summary attached. (Be aware that inertia in professional relationships settles in quickly, so success in the matchmaking role often entails some degree of nagging.)

## 7. Research Forums

An institution's research portfolio cannot grow substantially if most proposals going out the door are the small, single investigator type. Major multidisciplinary proposals start with researchers sparking ideas off one another, and this cannot happen if investigators remain siloed in their labs. Moreover, whole departments can be locked into a traditional, discipline-driven view of their research potential, too narrow to be competitive in today's theme-driven, interdisciplinary funding environment. The research office can provide a valuable service by serving as a kind of "executive producer" of research forums focused on promising

interdisciplinary issues, such as green engineering, climate change, and the economic potential of social networking. Of special interest are themes highlighted in the strategic plans of major funding agencies such as the National Science Foundation (2011), the National Institutes of Health (2011), and the U.S. Department of Energy (2011). Coordinating a research forum is time-consuming but not particularly costly, even if no registration fee is charged. Little academic expertise is needed on your part as the more experienced researchers are very good at identifying appropriate speakers and persuading them to come. Once the agenda is set, a little promotion to nearby institutions will usually result in good attendance, as everyone is looking for sponsor updates and future collaborators. The effort does require a strong capacity to plan ahead, a keen eye for detail, excellent communication skills, and the ability to follow through on all assignments—precisely the skills of many folks in the research office.

## 8. Online Tutorials

There is a wealth of fine grant-writing tutorials online, but few new investigators know where they are. [The best grant writing tips for NIH proposals](#) can be found on the web site of the National Institution of Allergenic and Infectious Diseases. (These materials are also useful for USDA proposals.) The Foundation Center offers [an excellent short course on writing proposals to private foundations](#). A quick Internet search will locate helpful guides to other

government and private agencies. Hot links to several concise, highly readable materials should be featured on the research office's web page and promoted via the awards newsletter and other channels of communication. The [Grantseekers Tool Kit page at the University of Tennessee](#) features numerous guides, articles and manuals—some of general interest, others focused on specific funding agencies.

### **9. Helping Researchers Get on Review Panels**

Serving on a review panel is like a graduate education in grant writing: This is where researchers learn to step out of their academic boxes and write to the needs and expectations of the folks who have a great deal to say about where the money goes (Porter, 2005). Because the major agencies need thousands of new reviewers each year, grant program officers are constantly on the lookout for fresh talent. When young investigators have honed their core research theme into a brief two or three paragraph project summary, they are well advised to send that all important first e-mail to the appropriate PO, inquiring whether the basic idea is a good fit with the program (Porter, 2009). If the response is encouraging, the next e-mail should express a desire to serve on a review panel, and include a brief résumé with picture attached. It is not uncommon for young investigators to be invited to serve, either on a panel or as a mail reviewer, even before they have submitted their first proposal.

Though trips to visit with POs can be expensive for researchers in some locations,

those within driving distance should do this on a regular basis. Experienced grant writers view these pre-proposal discussions as critical to their success. Newcomers to the sponsored research game are unnecessarily hesitant about this, as they are uncertain how they will be received. In fact, most POs are highly receptive to such meetings, for practical reasons:

- 1) Listening to new ideas for research can be an effective way for a deskbound program officer to learn about possible new directions in the field.
- 2) If the research idea is not a good fit, these conversations can reduce the number of noncompetitive proposals that must be processed.
- 3) If it is a good fit, the PO can offer helpful tips to shape the proposal for success.
- 4) Such meetings are a good way to recruit new talent for future review panels.

If travel to the DC area is not practical, new investigators should be encouraged to look for grant program officers at meetings of their academic disciplines, as POs are encouraged to attend such events.

### **10. Coaching and Editing**

Many, if not most, young researchers struggle with grant writing. Even those with impressive publishing records can find it frustrating to shift from dense academic prose to a concise, energetic proposal writing style. This is where the grants specialist as a coach and editor can provide help that could make the difference between failure and success. Good grant writing is mostly a matter of rewriting, and if the core idea is fundable, it is well worth

the time invested to turn weak writing into a persuasive presentation. Though coaching and editing are labor-intensive at first, the need for assistance tails off rapidly once the researcher catches on to the simpler, more free-flowing style of a winning proposal.

**“By extending a helping hand at the most critical phase of researchers’ thinking—whether or not to write a proposal—a proactive research office exerts a powerful upstream influence on the overall flow of the institution’s research activity.”**

## SUMMARY

Many of the most effective ways to encourage proposal development are inexpensive. By extending a helping hand at the most critical phase of researchers’ thinking—whether or not to write a proposal—a proactive research office exerts a powerful upstream influence on the overall flow of the institution’s research activity. This alone can provide a healthy and much-needed boost to the myriad activities associated with traditional pre- and post-award research administration.

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# Academic-Industry Collaboration under Federal Grants and Cooperative Agreements: Financial, Administrative, and Regulatory Compliance

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Full-text Article PDF Online:

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## ABSTRACT

Federal sponsorship of collaboration between academic institutions and industry is on the rise. Many government programs emphasize cooperation between universities and the commercial sector as a means to merge basic and applied research, promote economic development, and enhance knowledge dissemination. The intersection between academia and industry on federal research projects yields financial, administrative, and regulatory complexities related to cost accounting, program income, audits, equipment, transparency, the distinction between subawards and sub-contracts, and other items. This article discusses foundational compliance issues associated with participation of for-profit firms in grants and cooperative agreements.

## INTRODUCTION

Academic-industry interaction has received considerable attention in recent years. A lot of attention has focused on conflicts that arise when commercial organizations support and fund research or

services provided by, or to, an academic investigator.<sup>1</sup> This article focuses on a different but important subject: the financial, administrative, and regulatory challenges in federally funded academic-industry collaboration.

When institutions and companies collaborate on research projects, often these projects are funded by the industry participant. But academic-industry cooperation is not funded exclusively by industry. The federal government recognizes the value of these collaborations and has demonstrated a growing willingness to fund them.

In today's research environment, for-profit firms increasingly partner with colleges, universities, and research institutions on scientific projects. These collaborations grew under the American Reinvestment and Recovery Act of 2009, which opened new doors to industry participation in grants for energy research, broadband development, and medical research, among other areas. Academic-industry collaborations also have grown as more government funds become available for "translational" research, that is, studies designed to turn scientific discovery into practical application. The congressional ban on earmarks to for-profit companies is another factor that makes academia—with its relatively steady stream of federal funds—an ever more attractive research partner (*Chronicle of Higher Education*, 2010).

Strong ties between institutions and industry are not new; however, the infusion of federal funds into these relationships has increased in quality and quantity. The research community is well-acquainted with the strings attached to government grants for research. Yet for-profit firms may find this terrain unfamiliar, long experience

in research and development notwithstanding.

Take, for example, "Company ABC" (a pseudonym) that teamed with a university to apply for a medical research grant from the U.S. Department of Health and Human Services (DHHS). Upon notice that DHHS would fund the proposal, Company ABC engaged counsel to negotiate these terms for the project:

- A 10% fee charged to the grant, as a condition to Company ABC serving as a subgrantee to the prime grantee university.
- Direct reimbursement of various Company ABC indirect costs.
- Company ABC to have sole discretion over income generated with grant funding (i.e., program income).
- Confidentiality of all Company ABC research results.

The problematic nature of these terms is apparent to the seasoned research administrator. Not only would the terms contravene federal grant policies, but there is also some question about whether the terms are legally permissible.

Broad challenges associated with academic-industry collaborations are already familiar to the research community. This article highlights special compliance issues associated with federally funded projects, and focuses on financial, administrative, and regulatory issues. The article begins with an inventory of models for industry participation in federal research awards. Next, it provides examples

of specific compliance matters. Finally, it identifies additional subjects not unique to government-funded collaborations but nonetheless relevant to them.

The items discussed in this paper are basic compliance issues that arise when two sectors—*for-profit* and *nonprofit*—combine to undertake federal research. By its nature, this paper comes into contact with myriad items and provides only a “*nutshell*” treatment of each. Although the paper covers a broad spectrum of subjects, it does not exhaust, even remotely, the compliance particulars and peculiarities that arise in academic-industry relationships. Every subject identified here warrants further consideration in the context of particular collaborations. The author designed this paper to serve as a reminder of principles and concepts that prompt day-to-day judgment in academic-industry relationships funded by grants and cooperative agreements.

## FORMS OF COLLABORATION

Academic-industry interactions take various forms. Collaborations may involve, for example, industrial affiliate programs; clinical trial agreements; research equipment loans; material transfer; spinoff companies; research parks; joint ventures; consortia; and consultations. These arrangements reflect the diverse missions and expectations that each entity brings to the collaboration.

In federally funded collaborations, an observer could “*follow the federal money*” and learn a lot.<sup>2</sup> For example, on one end of

the spectrum, a biotechnology company and a medical school might together, or as part of a consortium, apply to an agency for an interdisciplinary clinical research grant; both the company and the medical school could be true project “*partners*” (though probably not “*legal*” partners), by splitting research responsibility, clinical sites, and grant funds. On the other end of the spectrum might be a research institute that contracts out a small set of commercial services under a grant to a local high-tech firm; collaboration could be minimal and the firm may not be identified in the grant application. Somewhere in the middle could be a paid consultative relationship between an academic laboratory and a commercial organization on a particular issue in a federal project. There are many variations to each of these arrangements.

As the examples suggest, “*collaboration*” need not be a joint undertaking in which a university and a firm undertake truly cooperative scientific activity. Rather, academia looks to industry for a variety of commercial goods and services that are critical to the research mission, and sometimes these relationships are also deemed “*collaborations*”. Perhaps the most common form of industry participation in grants and cooperative agreements is for a company to serve as a “*contractor*” to a prime academic awardee. The word “*contract*” is a term of art in federal grants lexicon; it refers to an agreement between a prime awardee and a third party through which the prime awardee procures routine commercial

goods or services for the sponsored project. (This paper uses the word “contract” and “sub-contract” synonymously.)

This is in contrast to a “subaward”, which is another term of art. A “subaward” refers to an agreement between a prime awardee and a third party through which the prime awardee transfers federal financial assistance to the third party for substantive scientific activity under the sponsored project.

When an academic institution is the prime awardee under a grant or cooperative agreement, the characterization of a commercial firm as either a “contractor”, on the one hand, or a “subawardee”, on the other, has a profound effect on compliance obligations. The next section provides a more expansive explanation of the distinction between contractors and subawardees.

Note that casting a company as either a contractor or a subawardee is not intended to imply that companies are always subordinate to the academic institution. Commercial firms often are eligible to be direct, prime recipients of competitively awarded grants and cooperative agreements, especially in Recovery Act programs.<sup>3</sup> Nevertheless, it is increasingly common for companies to be subawardees under federal research grants and cooperative agreements. As explained below, many of the compliance issues associated with commercial subawardees will be one and the same for commercial prime awardees. Thus, both prime

recipients and subrecipients will benefit from the distinctions drawn in this section.

## THE DISTINCTION BETWEEN SUBAWARDEES AND CONTRACTORS

Research awards to academic institutions almost always involve some flow of funds to the commercial sector. A simplistic and often-used question at the outset of a federally funded relationship between a prime awardee institution and a company is this: will the company’s relationship with the institution be one of true research collaboration, or one of vendor-customer? If the former, then normally a subaward is issued to the firm. If the latter, then normally a sub-contract is issued. The reality is that relationships between institutions and commercial entities are multifaceted arrangements that take any number of shapes and are difficult to categorize neatly. Relevant sources of guidance follow, and even this guidance is not conducive to mechanical application in each situation.

Office of Management and Budget (“OMB”) Circular A-110 (codified at 2 C.F.R. Part 215) and the DHHS Grants Policy Statement recognize a general distinction between a “subaward” and a “contract” (or sub-contract) under an award:

A subaward is the transfer of financial assistance for substantive programmatic work under the federal award; it does not include the procurement of commercial goods and services from a vendor.<sup>4</sup>

A contract is a grantee's agreement with a third party in order to procure commercial goods and services for a project.<sup>5</sup>

The Federal Demonstration Partnership ("FDP") Statement on Subawards (September 18, 2000) also provides guidance.<sup>6</sup> The FDP interprets a subaward to be an arrangement "in which two (or more) qualifying legal entities/institutions are working collaboratively on a sponsored project. Each institution has its own principal investigator/project director; however, one of the collaborating institutions takes on the role of prime awardee with the sponsoring federal agency" (Federal Demonstration Partnership, 2000, p. 1). The FDP Statement also notes that a subawardee "is conducting its own scope of work and is not providing goods or services, such as simply executing lab tests or constructing experimental instrumentation. In a subaward situation, the principal investigator/project director of the subrecipient may be a co-author on publications or the subrecipient may seek patent protection for inventions and otherwise function in much the same manner as if the award came directly from a federal sponsor" (Federal Demonstration Partnership, 2000, p. 2).

To distinguish between subawards and contracts, the substance of the relationship between the two entities is more important than the form of agreement.<sup>7</sup> Cognizant of this admonition, which is stated clearly in OMB Circular A-133, the research

community often uses guidance drawn from Circular A-133, as follows.<sup>8</sup>

Characteristics reflective of a "subaward" relationship between an academic institution and a firm include those where the firm:

- (1) has its performance measured against the federal award's objectives;
- (2) can make, and has responsibility for, substantive programmatic decisions;
- (3) has responsibility for complying with applicable federal program compliance requirements; and
- (4) uses the federal funds to carry out its program's objectives as compared to providing goods or services for a grantee's program.

In contrast, characteristics indicative of a "contract" relationship between an academic institution and a firm are when the firm:

- (1) provides the goods and services to the institution within normal business operations;
- (2) provides similar goods or services to many different purchasers;
- (3) operates in a competitive environment;
- (4) provides goods or services that are ancillary to the operation of the federal program; and
- (5) is not subject to compliance requirements of the federal program.

Admittedly, these traditional distinctions between subawards and contracts have eroded over time as academic-industry interactions take new and diverse forms. For purposes of compliance obligations, however, the distinction remains significant. The implication of the distinction is described in the next section.

## IMPLICATIONS OF THE CONTRACTOR/SUBAWARDEE DISTINCTION

### Commercial Entities that are “Contractors”

Conventional wisdom suggests this: One way to limit the compliance obligations of companies that participate in federal research, and to limit the subrecipient monitoring obligations of academic institutions that award federal funds to those firms, is to make an appropriate determination that the company is a contractor and not a subawardee. By and large, the conventional wisdom holds true. Contractors generally are not tethered to award programmatic requirements; are not subject to the financial and administrative pre-award and post-award requirements of OMB Circular A-110; are allowed, unlike most subawardees, to make a profit from their work under grants and cooperative agreements; and have few obligations in regard to cost accounting, property accountability, procurement processes, audits, and project reports.

It would be a mistake, however, to assume that agreements with contractors

under grants and cooperative agreements are no different from other contracts to procure goods and services in the commercial marketplace.

First, OMB Circular A-110 prescribes standards applicable to the prime awardee’s selection of a contractor. “These standards are furnished to ensure that such materials and services are obtained in an effective manner and in compliance with the provisions of applicable Federal statutes and executive orders.”<sup>9</sup> Included among these standards are requirements for the prime awardee to ensure “open and free” competition in the selection of a contractor; maintain written procurement standards; release clear and accurate solicitations; include a preference for firms that offer products and services that conserve natural resources, protect the environment, and are energy efficient; include a preference for small businesses, minority-owned firms, and women’s business firms; undertake and document cost or price analysis in connection with every contract; and document a justification for lack of competition when competitive bids or offers are not obtained.<sup>7</sup>

**“... the prime awardee is expected to flow down, and the selected contractor is expected to comply with, all applicable laws and regulations listed in Appendix A of OMB Circular A-110.”**

Second, the prime awardee is expected to flow down, and the selected contractor is expected to comply with, all applicable laws and regulations listed in Appendix A of OMB Circular A-110. ("All contracts, awarded by a recipient including small purchases, shall contain the following [Appendix A] provisions as applicable.")<sup>8</sup> Included among these provisions are laws on equal employment opportunity, lobbying, construction, environmental protection, and intellectual property.

Third, some sponsors apply specific public policies and appropriations law mandates to contractors under federal awards. As an example, the DHHS and NIH Grants Policy Statement collectively identify over forty public policy obligations that, based on the nature of the contractor's work, may apply to commercial contractors under grants and cooperative agreements.<sup>9</sup> Some examples include the following:

- Public Health Security and Bioterrorism Preparedness and Response Act: regulates the use or procurement of select agents and toxins.<sup>10</sup>
- Pro-Children Act: imposes restrictions on smoking in facilities where federally-funded children's services are provided.<sup>11</sup>
- Restrictions on Abortions: prohibits use of federal funds for abortions.<sup>12</sup>

These and other federal policies may seem peculiar to contractors who view themselves as routine vendors in the commercial marketplace. However, these policies demonstrate that, on some level, the

government holds these contractors to a higher standard than that which would otherwise apply in the commercial marketplace.

### **Commercial Entities that are "Subawardees"**

To deem a company a subawardee under a federal award presents critical compliance obligations. Generally, funds provided to subawardees retain their full federal character. For-profit subawardees are expected to comply with almost all the pre-award and post-award requirements set forth in OMB Circular A-110, as well as sponsor policies and procedures that supplement the same. For instance, DHHS's implementation of Circular A-110, at 45 C.F.R. Part 74, specifically applies to DHHS grants and subawards to "commercial organizations".<sup>13</sup> The difficulty is that commercial firms seldom are familiar with Circular A-110's provisions on management of funds, program income, property accountability, procurement processes, intellectual property, and audits, and few such firms have the financial or administrative controls in place to swiftly comply with such provisions.

Some sponsors maintain separate policies and regulations that apply to for-profit awardees and for-profit subawardees. The U.S. Department of Defense (DoD), for example, issues "Administrative Requirements for Grants and Agreements with For-Profit Organizations". These provisions apply to all direct awards and subawards to for-profit firms.<sup>14</sup> These special regulations are not entirely

consistent with the provisions of OMB Circular A-110. For example, DoD indicates that for-profit firms must prepare “monthly” personnel activity reports (e.g., time and effort reports) to support salary and wage charges to awards.<sup>15</sup> Circular A-110 does not speak to effort reporting, and the cost principles applicable to educational institutions, OMB Circular A-21, would not require monthly effort reports for all personnel. DoD changes or supplements several other familiar A-110 grant administration requirements.

Note that some private firms are reluctant to make the representations and certifications that federal sponsors expect subawardees—even for-profit subawardees—to make. These certifications include the “assurances” enumerated in Standard Form 424B, which pertain to compliance with myriad statutes and policies, including nondiscrimination laws, human subjects regulations, and laboratory animal welfare.<sup>16</sup> Noncompliance with these laws or a false certification of compliance can generate serious consequences for the prime awardee and the subawardee, including potential False Claims Act liability.

### **To Receive—or Not to Receive— Federal Funds**

Some companies ask this question: Can we continue to participate in a federal project and also remain free of the foregoing compliance obligations if we avoid the direct or indirect receipt of federal funds? In other words, can the company serve as an uncompensated collaborator or consultant

on an academic institution’s government funded project and legally avoid these obligations?

At first glance, this arrangement would appear to permit a company to avoid compliance infrastructure, maintain a profile on important federal projects, and thereby enhance the company’s reputation. It may also leave open the possibility of co-authorship or generation of intellectual property.

However, to use this strategy as a means to avoid compliance often is unavailing. Many requirements apply to a firm’s involvement in federally sponsored research, regardless of the direct or indirect receipt of federal funds. Consider these examples:

- *Financial Conflicts of Interest (FCOI)*: The Public Health Service (PHS) regulations that address financial conflicts of interest apply to recipients of federal research funds, and also to each “Investigator” that participates in the research.<sup>17</sup> Thus, if a commercial firm’s personnel participate in the research as “investigators”—i.e., they are responsible for the design, conduct, or reporting of research—then the firm’s investigators may be subject to parts of the FCOI regulation, which generally require disclosure of financial conflicts of interest and steps to manage, reduce, or eliminate a conflict.<sup>18</sup> Ordinarily, a prime awardee would flow down the FCOI regulation through its

subaward agreement, and obligate the subawardee to abide by the prime institution's FCOI policies, or require the subawardee to make certain assurances on conflicts of interest.<sup>19</sup>

- *Research Misconduct:* Regulations that govern research misconduct in federal projects apply to "allegations" of research misconduct, regardless of whether the accused or the accused's employer receives federal funds.<sup>20</sup> When there is a nexus to a federal project, an allegation against a company's employee may trigger an inquiry, a requirement to resolve the allegation in accordance with applicable regulations, and a requirement to report the investigation to the sponsor.
- *Human Subjects:* As a general principle, federal research that involves human subjects is subject to the "Common Rule" (45 C.F.R. Part 46). The Common Rule may apply in some situations in which a firm participates in research but does not receive federal funds. Companies may be familiar with Food and Drug Administration (FDA) regulations that cover clinical research related to investigational drugs and devices. However, the Common Rule is not identical to the FDA regulations.<sup>21</sup> The Common Rule defines human subjects research more broadly than the clinical investigations covered by

FDA regulations. For example, the Common Rule often applies to analysis of private information, such as medical information, even where there is no direct intervention or interaction with a subject, and even in some circumstances where the information is coded and not immediately identified with a human subject.

- *Animal Research:* The PHS Policy on Humane Care and Use of Laboratory Animals applies to "all PHS-conducted or supported activities involving animals, whether the activities are performed at a PHS agency, an awardee institution, or any other institution and conducted in the United States, the Commonwealth of Puerto Rico, or any territory or possession of the United States."<sup>22</sup> The actual receipt of federal funds by the organization engaged in animal activity under a federal project is not a precondition to application of the requirement.

Several other regulatory items, such as intellectual property policies, follow this general pattern.

The balance of this article focuses on selected compliance obligations associated with for-profit firms that serve as subawardees on government grants and cooperative agreements, or as direct recipients of such funds.<sup>23</sup>

### **Prohibition on Profit**

Companies have obligations to shareholders and others to show a return on

the investment of time and effort in research and development. In contrast, almost all federal sponsors explicitly prohibit payment of “profit” or “fees” to commercial recipients and subrecipients that participate in a federal grant, except under specific and authorized conditions.

**“... almost all federal sponsors explicitly prohibit payment of “profit” or “fees” to commercial recipients and subrecipients that participate in a federal grant, except under specific and authorized conditions.”**

For example:

- “HHS policy allows the payment of fee on SBIR/STTR grants, but HHS will not provide profit or fee to any other type of recipient under any other grant program. A fee may not be paid by a recipient to a subrecipient/consortium participant, including a for-profit organization. However, a fee (profit) may be paid to a contractor [e.g. vendor] providing routine goods or services under a grant in accordance with normal commercial practice” (*HHS Grants Policy Statement*, II-30).
- “Except for grants awarded under the SBIR/STTR programs, under an NIH grant, no profit or fee will be provided to a for-profit organization, whether as a grantee or as a

consortium participant” (*NIH Grants Policy Statement*, p. IIB-248).

- “Payment of fees (profit) are allowable only if specifically permitted by a program solicitation and only to the extent that it does not exceed the amount negotiated by the Grants and Agreements Officer and specified in the award letter” (*National Science Foundation [NSF] Proposal and Award Policies and Procedures Guide*, p. V-12).
- “Fee or profit or other increment above cost may not be paid on Department of Commerce financial assistance awards [grants] unless there is statutory authorization to do so. Requests for fee or profit by recipients of any type should be referred to [Commerce] for review” (*Department of Commerce Grants Manual*, chap. 9).
- “Grants and cooperative agreements may not provide for the payment of fee or profit to recipients or subrecipients, except for awards made pursuant to the Small Business Innovation Research or Small Business Technology Transfer Research programs” (*Department of Energy Financial Assistance Rules*, 10 C.F.R. § 600.318).

These policies may come as an unwelcome surprise to companies with little experience in federal research projects. Firms that build profit and fee into labor charges or otherwise “load” their billing

rates may need to disconnect elements of cost from their standard charge schedules.

### Cost Accounting Principles and Systems

Institutions of higher education and nonprofit organizations are quite familiar with the cost accounting principles of OMB Circulars A-21 and A-122, respectively. In many cases, these institutions have accounting systems centered around, and tailored to, tracking reasonable, allowable, and allocable costs. These costs are identified with unique accounting codes and institutional policies define appropriate documentation for each cost. However, few commercial organizations have systems that are designed to track costs in this manner, unless the company is a prior recipient of cost-reimbursement government contracts.

Commercial firms are subject to the *Cost Principles for Commercial Organizations* in the Federal Acquisition Regulation ("FAR") at 48 C.F.R. Part 31. It can be expensive and time-consuming for a firm to newly establish the accounting infrastructure needed to comply with the FAR cost principles and other financial requirements applicable to the receipt of federal funds.

Take, for example, the documentation of salary and wages charged to grants. The NIH makes clear that cost accounting for commercial firms means that these firms must document salaries and wages charged to grants "by maintaining a labor distribution system for all employees regardless of function. The labor

distribution system must account for **total** hours and charge direct and indirect labor to the appropriate cost objectives"<sup>24</sup> in order to accurately identify labor costs charged to direct activities, indirect activities, and included in the base to which indirect costs are allocated (emphasis in original). Some for-profit firms are surprised to learn that to serve as a direct awardee or subawardee under a grant demands this type of accounting infrastructure.

Note that the FAR cost principles are not fully consistent with the OMB Circular cost principles that apply to educational and non-profit institutions. For instance, the FAR cost principles permit for-profit awardees to incur "precontract costs" to the extent such costs would be allowable if incurred after the effective date of the award.<sup>25</sup> This is in contrast to the Circular A-21 cost principles, which indicate that "Costs incurred prior to the effective date of the sponsored agreement, whether or not they would have been allowable thereunder if incurred after such date, are unallowable unless approved by the sponsoring agency."<sup>26</sup>

Also, recovery of indirect costs under grants and cooperative agreements can be a challenge for commercial firms. Indirect cost recovery usually is based on a negotiated indirect cost rate. For-profits that already receive government awards may have a negotiated indirect cost rate with specific agencies.<sup>27</sup> Such rate agreements, unlike nonprofit rate agreements, may contain highly confidential commercial and proprietary information; often they will not

be released to a collaborator entity or even to a prime awardee. When a for-profit firm has no indirect cost rate or other known general and administrative rate upon award, special difficulties may arise. In these situations, if the firm is to be reimbursed for indirect costs, potential options, among others, would be for the firm to: (a) negotiate a rate with the sponsor agency, if it is otherwise eligible to have a rate agreement; (b) negotiate an appropriate rate with a prime awardee, based on the FAR cost principles; or (c) establish some other agreement with the sponsor agency or prime awardee about reimbursement of indirect costs.

### **Program Income**

Numerous grants and cooperative agreements have the potential to generate “program income”, and the likelihood of program income may increase when a commercial firm collaborates with a nonprofit institution. Broadly, any revenue generated directly by a grant-supported project, program, or activity, potentially is program income. Circular A-110 defines program income as “gross income earned by the recipient that is directly generated by a supported activity or earned as a result of the award”.<sup>28</sup> Examples of program income include fees for services performed; charges for the use or rental of real property, equipment, or supplies acquired under the federal award; the sale of commodities or items fabricated under the award; and license income on patents and copyrights. A classic example of program income is admission fees charged to participants for a

workshop or conference sponsored by an award.

Even though program income may be maintained by the organization that generates the revenue, usually program income must be reported to the sponsor agency. More importantly, the government regulates the use of the revenue, which can make commercial organizations uncomfortable. In general, sponsors will require one, or a combination, of these uses of program income:

- Additive use: program income is added to the award funds and must be used to further the award purposes.
- Deductive use: program income is deducted from the government’s total share of costs under the award.
- Matching use: program income is applied toward an awardee’s cost share requirements.<sup>29</sup>

Ambiguous program income situations are plentiful when commercial organizations participate in federal research. For example, if both government funds and private funds are contributed to produce a revenue-generating event in the course of a project, are all the revenues considered program income? Or could a percentage of revenue remain with the firm? Some sponsors permit proportional distribution, but not all do.

Three additional observations on program income are important to commercial firms. First, recipients have no obligation to the government for program income earned *after* the end of the project

period, unless the award terms and conditions provide otherwise.<sup>30</sup> Second, if authorized by the sponsor agency, the costs incidental to the generation of program income may be deducted from gross income to determine program income, provided these costs have not been charged to the award.<sup>31</sup> In other words, program income can be “net” income. Finally, although program income includes royalties and other income earned from a copyrighted work, patents, trademarks, or inventions, typically such income is exempt from the program income requirements, though it is subject to the other intellectual property terms of the award.

### **Federally Funded Equipment**

Rules on ownership, management, and disposition of equipment purchased with grant assistance may be different for nonprofit and for-profit organizations. The Federal Grant and Cooperative Agreement Act of 1977 permits agencies to vest title to grant-funded equipment in nonprofit organizations without further obligation to the government.<sup>32</sup> Such property is considered “exempt property”—it is generally excused from the equipment management and accountability rules set forth in Circular A-110.<sup>33</sup>

However, a commercial organization has much less flexibility when it acquires equipment under federal awards or subawards. Such equipment is “nonexempt property” and, unless otherwise specified in the award, subject to a spectrum of acquisition, use, management, and disposition requirements, which include a

requirement to mark, tag, and segregate the equipment.<sup>34</sup> Some agencies reserve title to equipment purchased by commercial organizations. NSF is one example: “[T]itle to equipment purchased or fabricated with NSF grant funds by a small business or other commercial firm will vest in the government. Such equipment will be acquired and used in accordance with [NSF Conditions for Acquisition and Use of Equipment] and [NSF Property Management Standards].”<sup>35</sup> Commercial organizations should not assume, therefore, that property acquired under a project will be unencumbered by federal requirements.

### **Audits and Access to Records**

Commercial firms involved in federal research sometimes are surprised to learn of the government’s sweeping audit rights. Any company, as a direct or indirect recipient of award funds, automatically agrees to the authority of the federal sponsor, the U.S. Inspector General, the U.S. Comptroller General, and any of their authorized representatives, to have timely and unrestricted access to the company’s books, documents, papers, or other records pertinent to the award.<sup>36</sup> The government’s rights include access to the firm’s personnel for discussion related to such records, and these rights are not limited by the record retention period, which generally is three years from the date of submission of the final financial report under the award. For-profit firms that are unaccustomed to federal business may be uncomfortable with such broad audit and interview rights. Academic institutions, on the other hand,

have long had policies and procedures that are consistent with the government's rights.

If an academic institution wanted to appraise the financial or other risk of engagement with a specific subawardee, normally the institution could review the subawardee's annual Circular A-133 audit report, which is publicly available.<sup>37</sup> This risk assessment is considered a component of a prime awardee's subrecipient monitoring obligations. However, Circular A-133 does not apply to for-profit organizations, and prime awardees must look elsewhere to conduct an assessment of for-profit subawardees.<sup>38</sup>

Audit requirements for commercial firms vary between federal agencies. For example, DHHS requires for-profit firms to have a non-federal audit if the firm, during its fiscal year, expended a total of \$500,000 or more under one or more DHHS awards, as a direct recipient and/or as a subrecipient. The firm either may have: (1) a financial-related audit, in accordance with Government Auditing Standards, commonly known as the "Yellow Book", or (2) an audit that meets the requirements contained in Circular A-133.<sup>39</sup> Even when the firm does not meet the \$500,000 threshold for the mandatory audit, the firm's "records must be available for review by appropriate officials of Federal agencies."<sup>40</sup> Academic institutions that work with for-profit subawardees must flow down the appropriate audit terms and secure compliance with the same. Also note that pursuant to HHS policy, foreign subawardees—whether for-profit or not—

are subject to the same audit requirements as for-profit organizations.<sup>41</sup>

### **Intellectual Property**

The multiple intellectual property complexities in academic-industry collaboration are worthy of coverage in their own articles. For example, ownership of IP, protection of background IP, and rights to research data are particular challenges, as is the question of material transfer. Research institutions and commercial firms may be constrained, under federal law, from agreeing to terms that otherwise are customary in the broader marketplace. This section highlights a few fundamental observations in regard to federally funded inventions.

Collaboration between academia and industry arguably is written into the Bayh-Dole Act, which imposes an obligation on research institutions to commercialize government funded inventions.<sup>42</sup> Nonprofit inventors and their institutions fulfill this "duty to commercialize" through license relationships with industry.<sup>43</sup>

The Bayh-Dole Act, by its own terms, did not apply to for-profit firms that were not small businesses. However, in response to increasing commercial sector concerns about this lack of uniformity, a 1983 Presidential Memorandum and a 1987 Executive Order extended Bayh-Dole to all for-profit organizations, to the extent permitted by law.<sup>44</sup> As such, inventions by companies that are conceived or first actually reduced to practice in the performance of experimental, development, or research work under a grant or

cooperative agreement may be retained and protected by the company, subject to certain government rights and various inventor obligations.<sup>45</sup> The company must track and report inventions, and maintain a system to ensure that the government obtains its rights (Henderson & Smith, 2002).<sup>46</sup>

The government's rights to inventions include a nonexclusive, nontransferable, irrevocable, paid-up worldwide license to practice or have practiced for or on behalf of the United States the invention throughout the world.<sup>47</sup> This is commonly known as "government-purpose" rights. The sponsor agency also maintains "march-in" rights, which allows the government to step into the shoes of the patent-holder and grant additional "compulsory" licenses to the invention upon investigation and certain findings. Grounds for march-in include a finding that such action is "necessary to alleviate health or safety needs which are not reasonably satisfied" by the patent-holder, its assignees, or licensees.<sup>48</sup> The government has not exercised these rights with any frequency, if at all, but the existence of the right must be understood by commercial organizations that participate in grants and cooperative agreements.

It would not appear, under the regulations that implement the Bayh-Dole Act, 37 C.F.R. Part 401, that companies are subject to all the same obligations familiar to nonprofit institutions, such as the obligation to:

- Seek approval from the sponsor agency prior to assignment of an invention;
- Share royalties collected on a subject invention with the inventor;
- Use royalties or income earned to support scientific research or education; and
- Attract small business licensees.<sup>49</sup>

Other obligations unmistakably apply to for-profit firms. Among these is the preference for U.S. manufacture of inventions. Unless a waiver is obtained from the sponsor agency, products that embody the invention or that are produced through use of the invention must be manufactured substantially in the United States.<sup>50</sup> This preference presents a challenge to firms that have relationships and agreements with foreign manufacturers, often in countries where manufacturing is inexpensive. The penalty for omission to comply with this requirement could be steep—e.g., "march-in"—though it is unclear whether in this context a march-in ever has occurred.

On February 28, 2011, the United States Supreme Court heard oral arguments on the question of whether a university's statutory right under the Bayh Dole Act in inventions under federally funded research can be terminated unilaterally by an individual inventor through the inventor's separate agreement with a third party company that purports to assign the inventor's rights to that company. The outcome of the case, known as *Bd. of Trustees of Stanford University v. Roche Molecular Systems, Inc.*,

may considerably affect how research institutions and companies secure assignments from individuals who work on federal projects.<sup>51</sup>

### **Transparency and Open Government**

The current presidential administration asserts a “commitment to creating an unprecedented level of openness in Government.”<sup>52</sup> In this regard, organizations that participate in federal research have developed a heightened sensitivity to protection of confidential information that is generated, used, or submitted in a federal project. Generally, commercial firms have much more to lose from the unanticipated disclosure of proprietary and confidential business information.

New policies related to the Freedom of Information Act (“FOIA”)<sup>53</sup> have caused concerns among companies that participate in grants and cooperative agreements. The Justice Department has directed agencies to adopt a heavy presumption in favor of information disclosure, even for information that technically falls within the scope of a FOIA Exemption.<sup>54</sup> Broadly, FOIA requires federal agencies to disclose records requested in writing by any person. Agencies may withhold information pursuant to nine statutory FOIA exemptions. One exemption is for “trade secrets and commercial or financial information obtained from a person and privileged or confidential”, otherwise known as Exemption #4. Quintessentially sensitive information—such as an organization’s technical methodology and

price data, the release of which would cause competitive injury—typically is protected under Exemption #4. However, agency grant and cooperative agreement officials have been known to be less receptive to Exemption #4 and less likely than their procurement counterparts to withhold records from public disclosure. Commercial organizations would be wise to proactively and thoroughly identify, mark, document, and support the confidential nature of sensitive information that is used in federal research.

Two relatively new laws also contribute to heightened disclosure requirements:

- The Federal Funding Accountability and Transparency Act of 2006 (“FFATA”) requires disclosure, on a single publicly accessible website, of all entities and organizations that receive federal funds and payments.<sup>55</sup> Through this website, the public—including a firm’s competition—now have broad insight into federal awards secured by commercial firms, and insight into the partnerships and collaborations that commercial firms form with academic institutions.
- The Recovery Act (ARRA)<sup>56</sup> contains several transparency and accountability requirements. A firm that participates in an ARRA project should anticipate the public disclosure of project data, as well as firm-related information, including the names and compensation of the firm’s top officers.<sup>57</sup> Furthermore,

grantees and subawardees that participate in ARRA projects must “promptly refer to an appropriate inspector general any credible evidence that a principal, employee, agent, contractor, sub-grantee, subcontractor, or other person has submitted a false claim under the False Claims Act or has committed a criminal or civil violation of laws pertaining to fraud, conflict of interest, bribery, gratuity, or similar misconduct involving those funds.”<sup>58</sup> This affirmative obligation to disclose misconduct is a complicated and tricky legal scenario for any organization, and especially for a company.

## CONCLUSION

The foregoing issues are merely illustrative. From these examples, though, perhaps research professionals can draw practical inferences on issues likely to arise when for-profit firms participate in grants and cooperative agreements. Other important issues that fall under the rubric of academic-industry collaborations include, without limitation, the following<sup>59</sup>:

- Publication and rights in data
- Material transfer agreements
- Export control and fundamental research
- Confidentiality, nondisclosure, and noncompetition
- Conflicts of interest and commitment

- Faculty consulting agreements
- Third party reimbursement
- Liability, indemnification, and warranties
- Gifts or loans of equipment
- Tax-exempt bond-financed facilities
- University-affiliated research parks
- Equipment loans
- Commercialization
- Personnel sharing
- Research subject injury
- Visiting scientists

Collectively, these issues suggest that to nourish and expand academic-industry interaction is a delicate process. This should not imply, however, that such programs must meet with skepticism and pessimism. Rather, alliance between academia and industry is imperative in the modern research environment. Current economic conditions and other pressures on corporate budgets have companies paying increased attention to opportunities for federal funds. University-industry compacts are on the rise, and the government has shown willingness to support them with grants and cooperative agreements. As these relationships grow, alertness to the compliance matters entailed is today a permanent endeavor for research professionals.

## ENDNOTES

1. On May 21, 2010, the U.S. Department of Health and Human Services (DHHS) issued proposed rules on the identification and management of financial conflicts of interest. The proposed rules enhance the present financial conflict of interest management and reporting requirements for Public Health Service (PHS) grant recipients. See 75 Fed. Reg. 28687. The final rule is expected in 2011.
2. "Following the federal money" also could be deceptive. For many reasons, as described in this article, a commercial entity might forego federal funding and still cooperate as an uncompensated participant in a federal project.
3. Federal sponsors make a variety of grants available to commercial entities. For example, the U.S. Department of Commerce's Broadband Technology Opportunities Program (BTOP) made grant funds available to for-profit entities to support the deployment of broadband infrastructure. See <http://www2.ntia.doc.gov/>. The Department of Energy makes grant funds available to for-profit entities for education, outreach, and modernization of electricity delivery systems, renewable and efficient energy research and development, and a variety of other research programs. See <http://www1.eere.energy.gov/vehiclesandfuels/>. The Food and Drug Administration (FDA) makes grant funds available to for-profit companies for specialized drug and device research. See <http://www.fda.gov/forindustry/developingproductsforrareconditions/default.htm>.
4. See DHHS Grants Policy Statement (GPS) II-78 (2007); NIH Grants Policy Statement (GPS), p. I-25 (2010).
5. See DHHS GPS App. B-4; NIH GPS, p. I-12.
6. The Federal Demonstration Partnership (FDP) is a broad association of federal agencies, universities, and research organizations that work to streamline the administration of federally sponsored research. Materials can be found at <http://thefdp.org/>.
7. OMB Circular A-133 includes this caution in the course of presenting characteristics indicative of a subawardee versus a vendor. § \_\_210(d).
8. See OMB Circular A-133 § \_\_210(b).
9. Circular A-110 § \_\_.40-48; 2 C.F.R. § 215.40-48.
10. Circular A-110 § \_\_.40-48; 2 C.F.R. § 215.40-48.
11. Circular A-110 App. A; 2 C.F.R. § 215 App. A.
12. See Exhibit 3 in the HHS GPS and Exhibit 4 in the NIH GPS.
13. HHS GPS, p. II-9; NIH GPS, p. IIA-8.
14. HHS GPS, p. II-5; NIH GPS, p. IIA-8.
15. HHS GPS, p. II-6; NIH GPS, p. IIA-9.
16. 45 C.F.R. § 74.1.

17. Department of Defense Grant and Agreement Regulations (DoDGARS), 32 C.F.R. § 34.1(b)(2).
18. 32 C.F.R. § 34.11(a)(4) (“The recipient shall have a system to support charges to Federal awards for salaries and wages, whether treated as direct or indirect costs. Where employees work on multiple activities or cost objectives, a distribution of their salaries and wages will be supported by personnel activity reports which must: (i) Reflect an after the fact distribution of the actual activity of each employee. (ii) Account for the total activity for which each employee is compensated. (iii) Be prepared at least monthly, and coincide with one or more pay periods.”)
19. See Standard Form 424B, <http://www.grants.gov/techlib/SF424B.PDF>.
20. 42 C.F.R. § 50.602. The Public Health Service is a branch of DHHS that includes the National Institutes of Health (NIH) and other federal agencies. Note that FCOI regulations are on the verge of being revamped and reissued. See *supra* note 1.
21. 42 C.F.R. § 50.605. “Investigator” means “the principal investigator and any other person who is responsible for the design, conduct, or reporting of research funded by PHS, or proposed for such funding. For purposes of the requirements of this subpart relating to financial interests, ‘Investigator’ includes the Investigator's spouse and dependent children.” 42 C.F.R. § 50.603.
22. 42 C.F.R. § 50.604.
23. 42 C.F.R. § 93.102.
24. 21 C.F.R. § 50, 56.
25. PHS Policy, available at <http://grants.nih.gov/grants/olaw/references/phspol.htm>.
26. The U. S. Departments of Defense and Energy have special authority to award TIAs to for-profit entities. See *supra* note 4. Some, but not all, of the compliance issues associated with grants and cooperative agreements will apply to TIAs.
27. “Time and Effort Reporting for Commercial Organizations,” NIH Office of Acquisition Management and Policy. See [http://oamp.od.nih.gov/dfas/forproffitime\\_effort.asp](http://oamp.od.nih.gov/dfas/forproffitime_effort.asp).
28. FAR 31.205-32. In practice, however, many agencies will restrict or limit the incurrence of precontract costs.
29. OMB Circular A-21 J.36; 2 C.F.R. § 200 App. A J.36. In practice, many grantor agencies permit educational institutions to exercise “expanded authorities” that allow for the incurrence of pre-award costs.
30. For example, the NIH Division of Financial Advisory Services (DFAS), Office of Acquisition Management and Policy (OAMP), negotiates indirect cost rates with commercial organizations for purposes of grants and contracts awarded to for-profit entities. See NIH Manual Chapter 7610 dated 9/11/2006.
31. OMB Circular A-110 § \_\_.2(x); 2 C.F.R. § 215.2(x).
32. OMB Circular A-110 § \_\_.24(b); 2 C.F.R. § 215.24(b).
33. OMB Circular A-110 § \_\_.24(e); 2 C.F.R. § 215.24(e).
34. OMB Circular A-110 § \_\_.24(f); 2 C.F.R. § 215.24(f).
35. 31 U.S.C. § 6306.
36. Equipment management and disposition conditions are established in OMB Circular A-110 § \_\_.34; 2 C.F.R. § 215.34.
37. OMB Circular A-110 § \_\_.34; 2 C.F.R. § 215.34.

38. NSF Proposal and Award Policies and Procedures Guide, Pg. IV-4.
39. OMB Circular A-110 § \_\_.53(e). *See also* 45 C.F.R. § 74.26(d)(2).
40. See <http://harvester.census.gov/sac/>.
41. "Since this part [Circular A-133] does not apply to for-profit subrecipients, the pass-through entity is responsible for establishing requirements, as necessary, to ensure compliance by for-profit subrecipients. The contract with the for-profit subrecipient should describe applicable compliance requirements and the for-profit subrecipient's compliance responsibility. Methods to ensure compliance for Federal awards made to for-profit subrecipients may include pre-award audits, monitoring during the contract, and post-award audits" OMB Circular A-133 § \_\_210(e).
42. 45 C.F.R. § 74.26(d); HHS GPS Pg. II-90.
43. 45 C.F.R. § 74.26(d) (2).
44. Bayh-Dole University and Small Business Patent Procedures Act of Dec. 12, 1980, Pub. L. No. 96-517, 94 Stat. 3015-3028 (codified as amended at 35 U.S.C. §§ 200-211, 201-307 (1994)).
45. See Memorandum to the Heads of Executive Departments and Agencies: Government Patent Policy, Pub Papers 248 (Feb. 18, 1983) and Executive Order 12591.
46. With respect to work that is subject to copyright protection, normally a firm may freely copyright works developed under a federal grant or cooperative agreement. The sponsor agency receives an automatic, royalty-free right to reproduce, publish, or otherwise use the work for Federal purposes, and to authorize others to do so. OMB Circular A-110 § \_\_.36(a); 2 C.F.R. § 215.36(a).
47. 35 U.S.C. § 202(c)(4); 37 C.F.R. § 401.14.
48. 35 U.S.C. § 203(a); 37 C.F.R. § 401.14(j).
49. 37 C.F.R. § 401.14(k).
50. 37 C.F.R. § 401.14(i).
51. *Board of Trustees of the Leland Stanford Junior University v. Roche Molecular Systems Inc.*, 583 F.3d 832 (Fed. Cir. 2009), cert. granted, 178 L. Ed. 2d 368 (2010).
52. White House Memorandum for the Heads of Executive Departments and Agencies, Transparency and Open Government, Jan. 21, 2009, *available at* [http://www.whitehouse.gov/the\\_press\\_office/TransparencyandOpenGovernment/](http://www.whitehouse.gov/the_press_office/TransparencyandOpenGovernment/).
53. 5 U.S.C. § 552.
54. Office of the Attorney General, Memorandum to the Heads of Executive Departments and Agencies, Freedom of Information Act, Mar. 19, 2009, *available at* <http://www.justice.gov/ag/foia-memo-march2009.pdf>.
55. Pub. L. 109-282, 120 Stat. 1186 (Sept. 26, 2006).
56. Pub. L. 111-5, 123 Stat. 115, 215 (Feb. 17, 2009).
57. See Section 1512 of the Recovery Act. Also, see Office of Management and Budget, Memorandum For The Heads Of Departments And Agencies, Implementing Guidance for the Reports on Use of Funds Pursuant to the American Recovery and Reinvestment Act of 2009, June 22, 2009, *available at* [http://www.whitehouse.gov/omb/assets/memoranda\\_fy2009/m09-21.pdf](http://www.whitehouse.gov/omb/assets/memoranda_fy2009/m09-21.pdf).
58. See endnote 57 for applicable references.

59. Many other papers and resources address academic-industry collaborations. For example, see the Council on Governmental Relations brochure on University-Industry Relations, available at [www.cogr.edu/viewDoc.cfm?DocID=151558](http://www.cogr.edu/viewDoc.cfm?DocID=151558), and see the National Academies Government-University-Industry Research Roundtable (GUIRR), available at <http://sites.nationalacademies.org/PGA/guirr/>

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# MEDIA REVIEW

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*The Lab:  
A Positive Solution to Research Misconduct*

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## ABSTRACT

Research Misconduct is a serious issue that has been around for quite some time, but recently it is at the forefront of funding agency regulations and compliance due to the new requirements from the National Science Foundation (NSF) on Responsible Conduct of Research (RCR). To comply with RCR, institutions of higher education have been developing and creating training programs that address core areas such as ethical foundations, research misconduct, business ethics, financial conflicts, data management, mentoring, human and animal subjects, publication practices, and peer review. Many different programs and tools covering an array of these topics are now being implemented. One of the most powerful training tools I have encountered is “The Lab: Avoiding Research Misconduct”.

## INTRODUCTION

Research misconduct is defined as the “fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results” ([U.S. DHHS, n.d.](#)). Research integrity has always been an important part of performing research. Every major university has misconduct policies and procedures. Some universities have research integrity offices with a wide array of staff,

including a Research Integrity Officer (RIO). Research integrity is not new by any means and it is just as important as it has ever been. However, since January 2010 when the National Science Foundation (NSF) incorporated the requirement for Responsible Conduct of Research (RCR) into its *Grant Policy Guide* (GPG), which mandates that all postdoctoral researchers and graduate and undergraduate students

funded by NSF receive training in RCR, this most important topic has taken center stage. Every university, college, and organization that receives NSF funding immediately went to work to put RCR programs in place and ensure that everyone is trained in order to comply with sponsor requirements. A large majority of universities invested in the Collaborative Institutional Training Initiative (CITI). "The CITI Program is a subscription service providing research ethics education to all members of the research community" ([Collaborative Institutional Training Initiative, n.d.](#)). Others created home-grown programs and face-to-face courses and programs to satisfy the requirement. Although these programs provide information about research ethics, "The Lab" has become the interactive program that has taken research ethics learning to another level.

## WHAT IS THE LAB?

"The Lab: Avoiding Research Misconduct" was created by the Office of Research Integrity (ORI), U.S. Department of Health and Human Services (HHS), to serve as an educational tool in the area of research misconduct. "The Lab" is an interactive movie that allows the viewer to step into one of four main characters and play that role in a case of possible research misconduct. The four main characters in the movie are a Postdoctoral Researcher, a Graduate Student, a Principal Investigator, and a Research Administrator who recently took the position of Research Integrity Officer. The video is full of questions and situations that, depending on the character

chosen and the responses provided to the questions, will drive the direction the story takes, not just for the chosen character but for the other characters as well. The main story revolves around a possible case of research misconduct; the fact that how the chosen character responds guides the story in different directions is one of the reasons "The Lab" is a tremendous learning tool.

**“. . .the fact that how the chosen character responds guides the story in different directions is one of the reasons “The Lab” is a tremendous learning tool.”**

"The Lab" is thought-provoking and provides an opportunity for decision-making. Playing just one of the roles in the movie provides great learning, but in my opinion, in order to take full advantage of what "The Lab" has to offer, everyone should play each of the characters because each one provides different choices and perspectives on the situation. Each one will allow you to guide the story in a different direction, which will play out in the outcome of the situation.

ORI also created a *Facilitator's Guide* to go along with the movie. The guide has an introduction to "The Lab" and what is included in the program: simulation that includes four playable characters; tutorials for each character that describe a step-by-step way to make ethical decisions; and the *Facilitator's Guide*. The latter also covers items such as learning methods and provides suggestions for using the

simulation in a group setting or individually as homework. Additionally, it thoroughly explains how to navigate the program; introduces the characters and story; and provides discussion topics and questions. The *Facilitator's Guide* is easy to read and follow and it is an excellent addition to the simulated movie.

Since "The Lab: Avoiding Research Misconduct" was released earlier this year it has been viewed by thousands of people and the response has been overwhelmingly positive. It is my opinion that the reason for this positive reaction is because the movie is interactive. There are many different ways to learn, and studies support the use of "active learning" as the best way for students to learn. "Active learning" is "...anything that students do in a classroom other than merely passively listening to an instructor's lecture" (Paulson & Faust, n.d.). "Role playing" is another form of learning that also receives great approval. Paulson and Faust (n.d.) pointed out that active learning and role-playing should not be utilized as stand-alone, but instead used to supplement classroom instruction. In today's technological age, ORI created in

"The Lab" the best of all tools by incorporating active learning and role-playing in a format that is the favorite of the up and coming generation—the electronic format. "The Lab", as a web based program, has the flexibility to be viewed anywhere and at any time. This tool can be utilized individually or in group sessions to promote further discussions. ORI has even produced a DVD-ROM format of "The Lab" and it is continuing to distribute free copies with the intent of using it in places that do not have access to the online version.

## CONCLUSION

Not having instances of research misconduct is the ultimate goal for any university or research unit—perhaps one day that will be the case. This may indeed be the case if organizations like ORI continue creating learning tools like "The Lab". It is this type of interactive, online training that will spread the message of what research misconduct is, how to report it, how to deal with it, and how not to get into such a situation. "The Lab" gets 5-thumbs-up from this reviewer.

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## BOOK REVIEW

*Techniques for Monitoring Federal Subawards*, 3<sup>rd</sup> ed.  
Thompson Publishing, 2010,  
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### ABSTRACT

In *Techniques for Monitoring Federal Subawards*, 3<sup>rd</sup> ed., research administrators and others working in the field will find important information necessary to establish a subaward monitoring system and to provide guidance to staff and subawardees about the federal requirements of the award. This version from Thompson Publishing Group is an update to previous versions that incorporates more recent federal mandates for monitoring of all subawards issued under federal grants. It serves as a useful reference guide for the experienced research administrator or a novice to in the field, providing substantive information on the regulatory requirements.

Recent federal legislation has made the job of managing federal research grants more complex than ever before. In 2009, Congress enacted the American Recovery and Reinvestment Act<sup>1</sup> which provided grant funding for numerous programs with the intent of boosting the U.S. economy. It also mandated governmental transparency, establishing a process through which all grant recipients make available to the public information about how federal Recovery Act funding is being spent. These additional

legal mandates mean additional work for the seasoned research administrator or for neophytes to the profession. In *Techniques for Monitoring Federal Subawards*, 3<sup>rd</sup> ed., the research administrator is provided with a useful resource for developing a federal subaward monitoring program that is compliant with the regulations.

Touted as both updated and expanded, this edition is divided into two main parts. Information in Part A is critical to understanding the basics of subaward

monitoring. It includes a substantive discussion of the various compliance monitoring tools that federal grant recipients and their subrecipients can utilize in making and receiving federal subawards. Each chapter in this section selects one critical point of focus and provides research administrator with key points of consideration and graphical descriptions as well as references to the applicable regulations. Part D of the text provides a suitable reference, including excerpts of OMB circulars and the Circular A-133 Compliance Supplement.

This edition of *Techniques for Monitoring Federal Subawards* begins by providing a brief overview of the roles and responsibilities of the key participants and stakeholders in the subaward process, including the federal awarding agency, the pass-through entity, and the subrecipient. As a part of this discussion, the book provides the reader with a useful reminder to those in the profession of the differences and distinctions between “subrecipients” and “vendors”. This subtle point becomes critical in light of recent regulatory requirements mandating subrecipient monitoring. Although specific federal agency guidance is not addressed in this chapter, sufficient general guidance is provided with recommendations to contact agency personnel for the overall administration of a subaward. Chapter 2 also provides information regarding the subrecipients’ administrative and reporting responsibilities. These responsibilities are of critical importance to the federal awarding agency in meeting the requirements of the Government Performance Review Act (GPRA)<sup>2</sup>.

Having established a suitable foundation for the reader, chapter 3 describes the key provisions of an effective subaward. Here the importance of a well-written scope of work and budget is highlighted. As noted in the text, each scope of work itself is unique and must be carefully tailored to ensure that the programmatic goals are being met. This commentary serves as a subtle reminder that although a template may be used generally for subawards, special attention is needed to ensure the appropriateness of the scope of work. Additionally, this chapter describes the various types of program-related and administrative laws as well as regulatory requirements that should be included in the subaward agreement. As an example, the text notes that GPRA’s performance requirements may be imposed in a grant agreement which may then flow-down to subrecipients. These important regulatory mandates ensure that subrecipients comply with all necessary requirements. In this area, the text recommends providing the subrecipient with the relevant provisions of the program regulation as a reference in the subaward. Recognizing that this may be cumbersome and impractical given the breadth of many of the regulatory provisions, the text aptly suggests that these important provisions may be incorporated by reference.

Chapter 4 begins the practical discussion of subawardee monitoring, providing the reader with an in-depth look at the monitoring techniques that pass through entities and that subrecipients have found to be useful. Such techniques include reviewing single audit reports, scheduling site visits, reviews of subrecipient reports (technical and audit), third-party

evaluations using consultants, and using important communication tools such as email. Deciding which technique(s) to use may be a source of contention for the research administrator. The text suggests a number of factors that can be used in selecting the appropriate technique or tool as a part of a comprehensive submonitoring program.

The issue of communication cannot be taken lightly and no text on submonitoring techniques would be complete without addressing the need for effective communication between all parties, including the pass-through entity and the federal awarding agency. Chapter 5 reiterates many earlier stated points about communication, including providing information to the subrecipient as a part of the subagreement itself. However, the text drives home the point that there also must be communication beyond the subagreement, including informing the subrecipient of any changes in programmatic regulations that may occur post-award. These post-award changes may trigger questions from the subrecipient or modifications in the scope of work.

During the monitoring process, it is critical to communicate the results of follow-up site visits or document reviews. Chapter 6 builds on this discussion about communication in monitoring follow-up, providing information to the reader that may be utilized in meeting the important goal of proper subrecipient monitoring. Particularly useful is the information about reviewing the single audit report; a sample monitoring follow-up letter is provided.

This section concludes with an extensive discussion of the auditor's review of monitoring activities. Detailing the process

used by auditors, this chapter articulates how auditors test the adequacy of a subrecipient's monitoring system, including what documentation can be provided to support monitoring activities. The need for documentation is critical; this text drives home this point for the research administrator, including the implications of non-compliance. Use of a checklist as a part of internal control assessment is encouraged and key elements inherent in the assessment are provided. Research administrators with experience in auditing and internal controls will find this information useful in establishing a submonitoring program.

Part B of this edition provides the research administrator with an in-depth discussion of a number of selected grant management issues. Such issues include further delineation of elements of the subgrant agreement and practical advice to grantees about implementing a sound subrecipient monitoring program. The text closes out with a sound discussion of cash management rules that grantees and subgrantees must follow in order to comply with applicable regulations.

Overall, *Techniques for Monitoring Federal Subawards*, 3<sup>rd</sup> ed., is a useful mini-treatise on the critical issues involved in monitoring subawards. It provides timely information about the federal requirements of ARRA that impact the research administrator in the majority of academic and non-profit institutions. While much of the information discussed is provided at high-levels and in summary, suitable references are made to additional resources available to the research administrator to further supplement his/her learning and development of a submonitoring program.

This text is a welcome addition to the  
research administrator's ever-growing

library of resources.

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## ENDNOTES

1. Pub. L. 111-5
  2. Pub. L. 103-62
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## ABOUT THE AUTHORS

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**Tim Atkinson, Ed.D.**, after completing a B.S. in Biology from Tennessee Technological University, started a career in research as a research assistant at Vanderbilt University where he sequenced a lot of DNA. After spending some time in the Nashville community of science, he found a research administration job at Meharry Medical College, also in Nashville, and from there he has maintained a career in the field for the last 16 years. Along the way he completed a master's in higher education at Peabody College at Vanderbilt, and a doctorate in higher education from the University of Arkansas at Little Rock. He is currently Assistant Provost and Director of Sponsored Programs, University of Central Arkansas, where he also has an appointment as Assistant Professor of Leadership Studies. He teaches graduate courses in grant writing and leadership. His research interests are in semiotics, leadership, and higher education.

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