

THE FEDERAL GOVERNMENT/RESEARCH UNIVERSITY PARTNERSHIP

A hearing hosted by

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*Indiana University, Indiana University-Purdue University Indianapolis, and the
Committee on Institutional Cooperation*

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EXECUTIVE SUMMARY

On November 4, 1999, more than 60 representatives from 28 research universities throughout the central states region gathered for an open forum on *Renewing the Federal Government/Research University Partnership*, a document promulgated by the National Science and Technology Council (NSTC). The one-day forum featured panel and roundtable discussion, audience reaction, and presentations from Neal Lane, Assistant to the President for Science and Technology Policy, and Ernie Moniz, Undersecretary, United States Department of Energy. ***Meeting attendees agreed upon the importance of the partnership and expressed strong and enthusiastic support for the adoption of the principles.***

Participants underscored the following principles:

1. “Research is an investment in the future.”

This is a critical principle, particularly relevant to the need for long term, stable investments in research, rather than short-term, fluctuating support.

2. “The linkage between research and education is vital.”

In this symbiotic relationship between research and education, graduate students are both students and assistants in the conduct of research, but their primary role is as student. Federal accounting for their participation in sponsored research should reflect that relationship of their roles.

3. “Excellence is promoted when investments are guided by merit review.”
Attendees support research funding that is based on competitive processes—particularly peer review—and oppose budget processes that reduce the pool of resources open to competition. Agency and department policies and practices that support this position would be most beneficial.

4. “Research must be conducted with integrity.”

Attendees strongly believe in accountability for the support provided to conduct research, while continuing to endorse efforts to remove/reduce paperwork that wastes time and adds little value.

In addition to these comments on specific principles, attendees made a number of additional observations and suggestions:

1. To make the most effective use of available dollars for research and its administration, it is extremely important for federal agencies to have similar policies and practices, while retaining their specific missions and goals. An excellent example is the electronic grant process, in which the NIH Commons and the NSF Fastlane have been highly successful innovations. If all agencies use the same process, format, etc., both the agencies and the universities will save time and money.
2. Limiting the development of regulations, including increasing demands for investigator training in various areas, will be critical in enabling investigators to conduct their research in a productive, as well as responsible, manner.
3. NSTC may wish to consider additions to the principles, including a definition of cost sharing; a strong statement that research funding should not be influenced by the political process; and an understanding that a successful partnership is founded upon trust between the partners.

SUMMARY OF ALL SESSIONS OF THE CONFERENCE

INTRODUCTORY COMMENTS

- *Neal Lane, Assistant to the President for Science and Technology Policy*

Dr. Lane made a number of key points and observations in his presentation, beginning with some comments about the partnership between research universities and the federal government. He indicated that the Office of Science and Technology Policy (OSTP) and the NSTC are moving forward on steps to ensure the partnership is as strong as possible. Specifically, the NSTC hopes to try to replace the current patchwork of rules with some guiding principles in order to better explain why this partnership is so important; strengthen the links between research and education; and promulgate useful rules consistent with the principles.

Dr. Lane also observed that the private sector has been making investments in R&D, and that the federal government's relative contribution is decreasing. OSTP hopes to encourage stronger support for research from the federal government, and while we don't know what the "formula" for ideal funding should be, OSTP is open to discussion on this point.

PANEL 1

INTEGRATION OF RESEARCH AND GRADUATE EDUCATION

- *Virginia Hinshaw, Dean of the Graduate School and Senior Research Officer, University of Wisconsin-Madison Graduate School*
- *Bob Killoren, Assistant Vice President for Research, Pennsylvania State University*
- *Christine Maziar, Vice President for Research and Dean of the Graduate School, University of Minnesota*

Virginia Hinshaw opened the panel with a focus on training programs as key to the development of a pool of excellent graduate students and researchers. She identified a number of models of successful training programs such as the NIH biotechnology training grants, and stressed that these programs are vital. Research universities need more such opportunities, with greater cost recovery allowed for these programs. The training programs should combine professional development and research opportunities for participants, in order to have the greatest societal impact.

In spite of the successful models, Dr. Hinshaw observed that administrative and lab support is down, while accountability, accounting, and regulations are increasing. Further, there are "hidden" costs to these programs, wherein the universities must provide supplementation for such things as stipends, indirect costs and tuition. Dr. Hinshaw identified steps that the

government and the research universities could take to improve and build upon the successful training programs of the past.

The Federal Government should:

- Identify training programs as a national priority
- Allow universities, like industries, to recover full indirect costs
- Simplify tuition formula
- Provide competitive stipends

Research Universities should:

- Provide stronger professional development opportunities
- Produce graduate students who are intellectual experts, skilled computer users, effective communicators, and strong members of diverse teams
- Enhance the undergraduate experience in research
- Educate the public about the critical role of federal support
- Seek additional partners to support graduate students

Bob Killoran focused his remarks on the need to forsake the procurement paradigm. That is, we should be thinking about Federal funding as sponsoring university research rather than purchasing services. He used several examples of current initiatives to illustrate the confusions and potential solutions.

He first discussed A-21 and tuition remission, indicating that the current model is based on a bona fide employer/employee relationship; that there is compensation for work performed; and the students are similarly compensated. A proposed and desirable model would recognize the dual role of students with tuition remission granted in return for similar services. Dr. Killoran did recognize that putting graduate students in employee/employer relations raises many overarching issues.

In another model, taken from the Government Accounting Office (GAO) report about the University of California system, there were payments to graduate student researchers, with compensation in accordance with A-21. Among other issues, income tax is a concern in this model. The issues were resolved as follows: compensation was in accordance with A-21; they discovered some instances that exceeded cap so NIH established a “red rate.” Foreign students

received 34-38%. The IRS agreed that, as a general principle, tuition remission could be excludable for tax purposes.

Christine Mazier focused her remarks on the following primary areas of concern:

- Recruiting and retaining students and faculty in areas of greatest national need
- Containment of fellowship levels and competition with private sector
- Recruiting and retaining international students, and related export control licensing regulations
- Financial crisis faced by academic health centers and implications of HMO environments
- Increasing regulatory/reporting burden on research projects, with no increase in funding or support

She reiterated a comment made by others, as well: that students are first and foremost students, and should be treated as such. Further, the issue of students as students versus employees has an impact on the ways in which ICR and indirect costs are recovered and calculated.

AUDIENCE REACTION & DISCUSSION – PANEL 1

A lively discussion/debate among the audience and panel followed, covering the following areas:

An audience member observed that research universities need full recovery of indirect costs, and that administrative costs are over the cap. Training grants don't cover indirect costs. Support necessary to cover indirect costs must then come out of endowments, tuition, or other sources of funds.

Another observed that every opportunity has associated costs—faculties spend much time putting the training grants together, and data etc., must be collected and collated by support staff to maintain grants. Universities are simply not getting enough support to sustain training programs.

Dr. Lane asked for more information on the export control issue, and suggested working with DOE to address concerns. One of the panelists reported that Penn State is working on an export control policy in research.

An audience member reinforced several of the points raised by the panel, including the fact that private sector competition makes it difficult to maintain research in areas of national interest. Of

particular concern is the fact that university research hospitals cannot continue to fund the current level of research. Many noted the need for a national policy regarding this critical issue.

Several participants called for an agreement with the government that “students are students and not employees.” Others called for a policy on recovering indirect costs from training grants. Finally, a participant noted that it is critically important for faculty to be allowed to charge their time on training grants. These training activities are very time-consuming, and faculty time is a direct, not an indirect, cost.

PANEL 2

CRITICAL COMMONALITIES

- *Mark Brenner, Vice Chancellor for Research and Graduate Education, Indiana University/Purdue University at Indianapolis*
- *Peter Dunn, Assistant Vice President for Research and Professor, Purdue University*
- *Barbara Siegel, Executive Director, Office of Research and Sponsored Programs, Northwestern University*

Mark Brenner initiated the panel by calling for an examination of key challenges to working with respective federal agencies in areas like proposal submission, funding, intellectual property, and compliance.

Peter Dunn observed that when the government and universities work together, the public wins. NSTC’s efforts to institute uniform policies and practices work well, and we should stay the course on that front.

Traditionally, universities were granted rights to claim title to inventions first made through the use of federal funds. We are beginning to see erosion here, which may deter researchers from pursuing certain grant-funded areas of research. Dr. Dunn stressed the need to restrict governmental control of intellectual property rights if we are to encourage research and development.

Dr. Dunn also pointed out that the recent flack over OMB Circular A-110 provides a good model of how open discussions can positively affect the development of policy. During the comment period research universities vigorously objected to the proposed processes, and OMB revised the process to the satisfaction of most parties. Conversely, eight days into the sixty-day period for public comment on research misconduct, The Health and Human Services Secretary announced that she would accept the document. This contracted comment period did not allow all parties time for analysis and comment, and this is not a good basis from which to develop trust or partnership.

Dr. Dunn made several specific suggestions, including the need for:

- Government-wide moratorium on limitation of grantees' intellectual property rights
- Task force to identify and analyze forces driving agencies to limit grantee's rights
- Partnership to develop effective alternative approaches to address "agency drivers" and preserve grantee's rights
- Leadership to ensure alternatives are implemented

Barbara Siegel made observations based on her experience as chair of the Federal Demonstration Partnership (FDP), an organization comprising 65 universities, 11 federal agencies, and 6 affiliates. FDP's primary focus has been to enhance research productivity and reduce administrative burden by testing new ways of conducting business.

Ms. Siegel asserted that tension is caused by the lack of commonality in many areas of our university/federal government relationship. In particular, she identified the following action agendas that serve to reduce differences in grant administration across agencies, including standardization of:

- Terms and conditions that govern grants administration policy and practice across federal agencies
- Format for program announcements within and across agencies
- Approach to electronic research administration (e.g., electronic submission, reporting of proposals/grant awards)

Ms. Siegel reported on the FDP effort to develop a prototype electronic "commons" for proposal submission, but pointed out that this is a prototype and not a working model. She cautioned the audience to note that there is little commonality even in NSF's proposal submission protocols, where a great deal of discretion resides at the program level, often bypassing the commons initiative. Based on her experience, she encouraged development of a structure and commonality within an overarching strategy. Such a strategy would include the following actions:

- Strive to make agency variations transparent to the universities, mandate participation in the "commons"
- Identify government-wide, enforceable standards
- Ensure coordination and communication between policy makers, program directors and implementing entities

- Manage and evaluate the change process so as to determine the impact on the “business” end of the enterprise
- Pilot changes rather than implementing without understanding the potential negative impact on universities and researchers

Ms. Siegel concluded by informing the audience that a letter has been submitted to OSTP from the FDP, requesting consideration of these changes, and a white paper will be submitted by FDP to OSTP, as well.

AUDIENCE REACTION & DISCUSSION – PANEL 2

There was a brief period available for comment on this panel session, with those in attendance concurring that “commonalties” represent a critical set of issues. Establishing common frameworks for proposal submission and project management and reporting will allow university researchers to spend the lion’s share of their time and effort conducting research.

One member of the audience observed that universities tend to be reactive to regulatory issues, and encouraged all to stay ahead of the curve and anticipate some of these issues.

PANEL 3

PARTNERSHIP PRINCIPLES AND COST SHARING

- *Gary Isom, Vice-President for Research and Dean of the Graduate School, Purdue University*
- *Tony Waldrop, Interim Dean of the Graduate College and Interim Vice Chancellor for Research, University of Illinois at Urbana-Champaign*
- *Jack Ohanian, Interim Dean of Engineering, University of Florida at Gainesville*

Gary Isom identified a number of key concerns regarding cost share, including:

- Over time, the funding burden has shifted to the university, and the amount of flexible funding is decreasing.
- The faculties don’t seem to see cost share as “real money.”
- “Bidding wars” are now common among the universities in order to attract large grants.

- We must sensitize the government and the faculty to the reality that we ratchet up the cost share commitment when we enter into bidding wars – and the universities end up bearing the brunt of the burden.

Dr. Isom also stressed that proposals should be reviewed on merit – not on a fiscal basis. He observed that the trend toward funding research through “earmarks” may further erode the merit process.

Tony Waldrop defined cost share as that portion of the project or program costs not borne by the federal government. When mandatory, they are stated as conditions of award. When voluntary, they are offered in a proposal but not stated in program requirement. Reviewers and agencies perceive cost share as an indication of support and commitment of the principal investigators of the university.

However, Dr. Waldrop went on to observe that there are de facto cost share factors in every award. With facility and administrative caps on cost share at 26%, universities are forced to make difficult choices (e.g., academic programs compete with research programs for support). There are additional and significant costs to the universities for cost accounting, human subject, animal lab, and hazardous materials regulations. These regulatory costs can be an overwhelming burden in terms of institutional support for personnel and space.

Finally, Dr. Waldrop asserted that the 26% cost recovery cap can be seen as a barrier to supporting research, as the cost share funds must inevitably come from areas such as state appropriations, tuition, or other non-federal sponsored projects.

Jack Ohanian opined that we are, in essence, robbing Peter to pay Paul through the cost share issue. At the universities we are not sitting on a pot of gold labeled cost sharing. So, jointly with our departments we end up playing a game of probabilities hoping that not all the commitments will hit. Under the current system there is unnecessary tension between administration and faculty, between faculty and program managers; and the worst of it is when faculty believe the only reason their proposal was declined is because of the insufficient cost sharing offered.

The problem is exacerbated with the larger projects such as instrumentation and facility renovation, especially in those cases in which the university must go back to the state for special consideration. While cost sharing on such large projects is a reasonable expectation there needs to be a state/federal government partnership to support such endeavors. The states will be swayed by federal recommendations to support projects especially if presented from an economic development perspective.

The National Science Foundation took steps to spell out that cost sharing, if explicitly stated in program solicitation, can be an eligibility requirement, but it is not an evaluation criterion. This is a move in the right direction especially if such cost sharing is limited to major projects. The NSTC needs to work with all agency heads and perhaps the OMB to make such policies uniform across all federal sponsors of research.

Currently there are no limits specified on cost sharing except that each division/program sets a minimum only; it would help greatly to have a defined narrow range within which to work. Finally, Dr. Ohanian observed that industry is learning from the federal research sponsors and beginning to ask for cost sharing also.

AUDIENCE REACTION & DISCUSSION – PANEL 3

A lively debate and audience discussion ensued, with the following points highlighted:

One of the stated partnership principles is “agency cost sharing must be transparent,” but there is no associated definition of cost sharing in the document. A number of participants expressed concern that the process of “earmarking” begins to freeze out some worthy proposals.

So much of the discussion in cost sharing is in indirect costs. Could we change the wording to “partnership cost.” We are getting smacked with greater overhead costs, caps on indirect cost recovery, and requirements for cost sharing, and this is squeezing the university budgets in other ways.

The audience was challenged to reflect on a potential choice: for a given amount of federal dollars, is it better to make fewer awards or to support more awards while requiring universities to share a greater cost share burden?

ROUNDTABLE DISCUSSIONS

During lunch, meeting attendees self-selected into a number of groups to discuss aspects of the principles, highlighting the following:

Cost Sharing

The document should include a definition of cost sharing. Further, it would be beneficial for agencies to agree upon and identify appropriate costs to include in cost sharing, as well as a stated level of required cost share. There was general unease with the role of the individual program officers in negotiating cost share on an individual basis. Absent a clear set of principles regarding cost share, program officers, auditors, inspectors, and researchers inevitably establish their own, individual principles as they proceed.

Research is an Investment in the Future

Universities must increase their efforts to communicate with and educate the public and lawmakers about the important role of research universities in supporting strong national R&D efforts. The prestige of being a graduate student is decreasing, and it is harder to recruit the researchers of tomorrow. Universities should find ways to make graduate research positions more attractive, and should find ways to better prepare students for the broader job market. Universities welcome the opportunity to interact with regulatory representatives, and it is desirable to partner together in an effort to decrease unnecessary regulatory burdens – particularly as they relate to training programs.

Accountability and Accounting are not the Same

The group suggested deleting the word “financial” in the second to the last sentence so as not to restrict the term “accountability.” Further, the group suggested that peer review might appropriately be identified as one component of a system of accountability, and noted that all partners must work together to maintain the integrity of the system.

Merit Review

The group strongly supported the merit review process as critical to ensuring the best possible research project funding. National needs may dictate focusing program initiatives, but such programs still benefit from the merit review process.

Compliance

The group urges that every effort should be made to have consistency among the various agencies’ policies on compliance. OSTP is applauded for developing the new scientific misconduct policy. There is need for a similar unifying conflict of interest policy. In crafting a new conflict of interest policy, careful attention should be given to the insights that have been gained in managing conflict of interest issues. Regarding research on human subjects, the Office for Protection from Research Risks (OPRR) is urged to establish clearer policies. It is very important that they provide greater clarity of their expectations. There should also be better coordination on reporting to agencies that have overlapping responsibilities.

New Principles?

This group took a look at the entire report, and discussed what (if anything) was missing. The main themes included: 1) principles should rise above the political process (there was concern expressed about the loss of momentum with the administration transition following the election); 2) the federal government serves the long-term interest of the public by supporting research across a broad range of research disciplines with a particular emphasis on long-range work (must balance the portfolio); 3) private funding is not likely to fund work with interest driven by the “common ground” – whether in terms of research products or in enhancing human capital; and 4) research must be administered with mutual trust. The shared obligations entailed in maximizing the scientific outcome of the expenditure of public funds must be built on honor and trust and not be diminished by counterproductive suspicion between the partners.

CLOSING REMARKS: SHAPING THE RESEARCH AGENDA

- *Ernie Moniz, Undersecretary, United States Department of Energy*

The system of research universities is an important and essential element in the national research agenda. Economic development is a prerequisite for growth and opportunity, research is a prerequisite for economic development, and education is the foundation of research. Our challenge is to develop a sustainable system within which to frame and grow research. Too, there

is a need to articulate all of the federal investments in research, so we might see where the “stovepipe organizations” miss opportunities.

As we move forward in building a strong and expanding life science program, we have to ensure that balance is retained for the physical sciences and engineering. And, there is an opportunity to build new alliances across the sciences, where partnerships could and should be expanded at all levels. Our ability to sustain innovation may be dependent upon such partnerships. Universities should encourage and extend interdisciplinary investigations. Many discoveries are emerging from the intersection of disciplines.

However, disciplines are not the only boundaries that restrict us; we need fewer “stovepipes” and more “kitchen sinks,” recognizing that universities must of course retain rigor in the disciplines. Additionally, universities should reexamine the reward system for faculty – it is often easier to get the graduate students excited about new opportunities and initiatives than the faculty. And, universities have to “walk the talk” of grad students as students and not employees.

Ending with brief comments on several areas, Dr. Moniz observed that:

- We need to reach into K-12 to bring excitement about science to students
- We all share a role in college access
- Cost containment is important
- Need more faculty involved in government
- Foreign nationals play an important role in our research. We need high fences where appropriate, but low or no fences when they are not necessary. At the same time, we need to increase the number of young Americans entering the sciences

Dr. Moniz reiterated the value of the university/government partnership, and partnerships at all levels including K-12, inter-university, and across governmental agencies.