

**The Council of Graduate Schools
Response to the Office of Science and Technology Policy
Request for Comment, Scientific Integrity**

May 13, 2009

In his March 9, 2009 memo on “scientific integrity,” President Obama affirmed principles seeking to strengthen the public’s trust in the processes through which science informs public policy. The memo recognizes that sound evidence-based policy making depends upon the same principles that govern sound science: discovery; the evaluation of results by qualified, unbiased peers; and as much transparency as possible to include the public in open dialogue about the scientific and organizational processes that shape the executive decisions that influence this country. The Council of Graduate Schools applauds President Obama for his leadership and OSTP for inviting the public to comment on the specific procedures used to secure the integrity of the scientific process in the executive departments and agencies.

As the organization that represents graduate education in the United States, the Council of Graduate Schools (CGS) is deeply engaged in strengthening institutional environments supportive of scientific integrity within our universities. Through advocacy, research and best practice initiatives, CGS works closely with senior leaders of graduate education at nearly every university in the country that awards graduate degrees to improve and advance graduate education. Three CGS “best practice” change initiatives have resulted in educational reforms and evidence-based decision-making in university policies and practices affecting graduate students in all fields. Our comments below reflect our experiences leading these three national initiatives to more deeply embed scientific integrity into the educational and administrative processes of US universities. Two of these efforts have been supported by a U.S. Executive Agency, the Department of Health and Human Services (Office of Research Integrity); one by a U.S. Independent Agency, the National Science Foundation. We respond primarily to principle (f), though our recommendation also relates to principles (a), (b) and (e).


OSTP presumably will receive much constructive advice on compliance safeguards such as whistleblower protections, transparency policies, and an appropriate unbiased, peer review process. In our experience working with US universities, these mechanisms are necessary but not sufficient for ensuring integrity. While the pressures that contribute to compromised integrity of university research differ from those political pressures confronting scientists at US executive departments and agencies, our experience leads us to believe that process enhancements implemented by university leaders to promote scientific integrity can potentially improve scientific integrity in the executive departments and agencies. We describe one such process enhancement below.

Tri-level assessment. We recommend that OSTP consider conducting a comprehensive assessment to determine the full range of factors that may contribute to an institutional environment conducive to or inhibitive of scientific integrity. Based on our experiences with best practice initiatives in US universities, such a multi-tiered assessment strategy

would consist of: **(a) an inventory of institutional policies and practices; (b) an institutional climate assessment of each agency; and, where possible, (c) an objective assessment of quantifiable changes in behavior.**

- (a) OSTP has already begun the review of executive agency policies and procedures.
- (b) The experience of CGS in promoting evidence-based institutional reforms to strengthen scientific integrity suggest to us that a useful first action step would be for OSTP to conduct a survey to understand scientific and professional staff perceptions about the degree to which their agencies' institutional climate supports integrity. Recent research on scientific misconduct and misbehavior suggests that misconduct is more prevalent when researchers believe they are operating in an unfair institutional climate or system [B.C. Martinson, M.S. Anderson, A.L. Crain, and R. De Vries, *Journal of Empirical Research in Human Research Ethics*. 2006 March; 1(1): 51–66, <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1483900>]. Gauging professional and scientific staff perceptions of integrity in the institutional climate with questions pertaining to specific procedures, processes and behaviors would enable OSTP to identify specific areas needing to be addressed. Discrepancies in perceptions between groups who perceive processes to be sufficient and other groups who do not share that perception can also help leaders to address gaps appropriately. This process suggestion is grounded in empirical research and CGS best practice projects in institutional change.
- (c) The impact of any changes in executive agency policies and procedures over time should be informed and evaluated by assessment of objective criteria (behavior), as well as by changes in perceptions (b); policies and procedures should be reviewed and, where appropriate, modified accordingly.

Enhanced regulations and safeguards focused on compliance, and detection mechanisms to identify noncompliance, are necessary steps for ensuring scientific integrity. This brief is not intended to diminish their importance. In our experience, however, infusing scientific integrity into the fabric of an organization requires both a comprehensive assessment of the institutional climate and culture as perceived by all who contribute to its mission and strong executive leadership in modeling the principles of scientific integrity in all of their daily professional interactions.



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