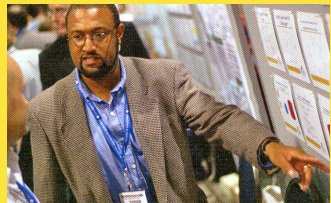


# ADVANCING GRADUATE EDUCATION IN THE CHEMICAL SCIENCES



## A Report of the ACS Presidential Commission on Graduate Education

**This report is the 21<sup>st</sup> century's first major analysis of the education of chemical scientists, whose work impacts medicine, drug discovery, energy, material science, and virtually every other field of science. The report's recommendations, if implemented, will serve to ensure that our technological leaders have the skills necessary to ensure future U.S. innovation, job creation, competitiveness and collaboration.**

### **The five major target audiences for the report are:**

- Academic institutions—faculty, department chairs, deans, provosts, presidents
- Federal, state and private funders
- Industry leaders, the major employers of chemical scientists
- Undergraduates, graduate students and postdocs
- ACS, with high focus on establishing a PhD completion and placement profile

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## The five major conclusions of the 22-member Commission are:

1. Current educational opportunities for graduate students, viewed on balance as a system, do not provide sufficient preparation for their careers after graduate school.
2. The system for the financial support of graduate students, as currently operated by private, institutional, state, and federal funds, is no longer optimal for national needs.
3. Academic chemical laboratories must adopt best safety practices. Such practices have led to a remarkably good record of safety in the chemical industry and should be leveraged.
4. Departments should give thoughtful attention to maintaining a sustainable relationship between the availability of new graduates at all degree levels and genuine opportunities for them. Replication in excess is wasteful of resources and does injustice to the investment made by students and society.
5. Postdoctoral training and education is an extension of graduate education that is important for success in a variety of career paths, particularly for faculty appointments. Postdoctoral associates should be treated as the professional scientists and engineers they are. A postdoctoral appointment should be a period of accelerated professional growth that, by design, enhances scientific independence and future career opportunities.