

## American Chemical Society

Topic 1: Breadth of Chemistry

s chemistry becomes ever more intertwined with related sciences and engineering, the skills, knowledge, and experiences that embody the practice of chemistry are changing. At the same time, increasing numbers of scientists who do not think of themselves as chemists must use chemical knowledge in their daily work. The American Chemical Society (ACS) has challenged itself to transform the definition of chemistry to encompass its true, multidisciplinary nature to provide enduring value for practitioners of chemistry and chemical engineering.

Chemists identify themselves and define their science on the basis of their ability to study molecular systems. The study of these systems is increasingly important for advances at the frontiers of science, especially in biotechnology, medicinal biology, and materials science. The strength of chemists is their ability to extend the study of molecular systems to these, and other, emerging areas. The general public, research funding agencies, and even practitioners of othe r scientific disciplines do not always recognize the contribution of the central and enabling science of chemistry to advances on the scientific frontiers or to topical issues that are of national concern, such as homeland security and environmental protection. Chemists need to strengthen their efforts to make visible their significant contributions to these areas.

The profession of chemistry is changing as the practice of science becomes more interdisciplinary and team-based. Employers, particularly in industry, want their chemical scientists to have a strong chemistry background that is complemented by other skills and knowledge that make them comfortable with multidisciplinary approaches, team-based work environments, and communicating their ideas clearly. The education that practitioners of chemistry receive at both the undergraduate and graduate levels will evolve in response to these trends. Last June, ACS hosted an invitational conference, titled *Exploring the Molecular Vision*, to consider how the content of chemistry education in the United States could better reflect the trend toward integration of all sciences The conference has spurred a broader discussion in the U.S. chemistry education community on how to reflect the scientific, curricular, professional and social issues that are reshaping the nature of the chemical profession. The ACS's Fall 2004 meeting will include a focal area on graduate education and feature a symposium on the Carnegie Initiative on the Doctorate, a multi-year research and action project that includes support for departments of chemistry to more purposefully structure their doctoral programs.

ACS will continue to build on its strong suite of information and career services, educational programs, and member benefits to meet the changing needs of science and the profession and broaden the appeal of ACS membership in fields where chemistry plays an enabling role. Journals and other publications in the interdisciplinary areas in which the field is making significant advances clearly will play an important role in this regard. The Society launched the journal Molecular Pharmaceutics last year. In partnership with the ACS journal Nano Letters, Chemical & Engineering News recently launched a new nanotechnology website, NanoFocus (pubs.acs.org/cen/nanofocus). Our meetings increasingly include interdisciplinary focal areas, as well. ACS is working to ensure that its technical divisions and governance processes are sufficiently flexible to respond to the rapidly changing environment for science and the profession. Recognizing the changing face of chemistry, ACS is working diligently to ensure that women, underrepresented minorities, and persons with disabilities are able to contribute fully to their chosen professions.

The ACS Board of Directors is currently exploring the value of alliance with other professional organizations in the United States and internationally. Alliances with other organizations will play a key role in helping ACS to be the natural home for all practitioners of chemistry and chemical engineering. ACS currently is exploring partnerships in programmatic,

membership and organizational areas with the American Institute of Chemical Engineers (AIChE). The goal of the potential alliance would be to improve the collective ability of ACS and AIChE to address technical, professional, and public matters that affect the members of the two organizations and the chemical enterprise as a whole. The boards of directors of both organizations are assessing the impact of the partnerships on their respective memberships and organizations.

Alliances in green chemistry are another important area of attention for ACS. The Society would be pleased to work with other C6 organizations to identify and provide incentives for the enterprise to adopt green chemistry and engineering more fully. Developing a core set of international "case studies" that demonstrate the positive impacts of green chemistry and engineering, improving communications about green chemistry between our organizations, and developing an international exchange program for green chemistry and engineering researchers could help to develop the growing international community of green chemists and chemical engineers and strengthen overall relationships between our organizations.